

FORESTRY

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Wild Food Plants of the Philippines

By William H. Brown, Ph. D.

*Chief, Division of Investigation, Bureau of Forestry; Professor of Botany,
University of the Philippines; and Plant Physiologist,
Bureau of Science*

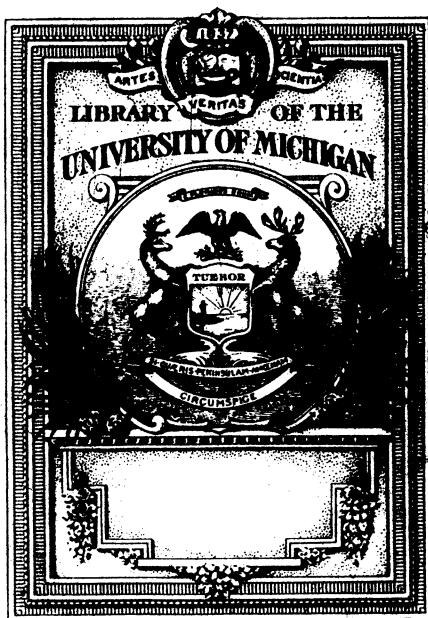


*Department of Agriculture and Natural Resources
Bureau of Forestry*

Bulletin No. 21

Arthur F. Fischer, Director of Forestry

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1920



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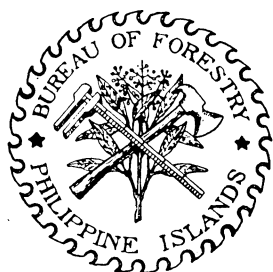


FIGURE 1. *EUGENIA MANANQUIL* (MANANGKIL) IN FLOWER.

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PREFACE

This bulletin is the seventh in a series dealing with minor forest products. At the present time, when considerable effort is being made to increase the food supply of the Philippines, it is believed that an account of the wild food plants of the Archipelago should prove of value.

In discussing the various species of plants the following system has been used: On the left of the page is given the scientific name, and on the right the local name adopted as official by the Bureau of Forestry. This is followed by a list of local names in the various localities. The first part of the description gives an account of the edible portion of the plant. After this there is a paragraph which begins with the scientific name and gives a general description of the species. The last paragraph gives the distribution.

The writer is greatly indebted to Mr. E. D. Merrill for valuable assistance and suggestions and to Mr. E. E. Schneider for revising the spelling of the local names and for much valuable data. The original drawings were made under the direction of Mr. J. K. Santos by Messrs. F. de la Costa, P. C. Campan, F. Turla, A. Hernandez, and F. S. Guerrero.

WILLIAM H. BROWN.

WILD FOOD PLANTS OF THE PHILIPPINES

By WILLIAM H. BROWN

INTRODUCTION

There is a very commonly accepted belief in temperate countries that fine, edible fruits abound in tropical forests. This idea is largely erroneous. In the Philippines, with its varied flora, there are probably fewer fine, edible, wild plants than in the eastern part of the United States. Moreover, such wild plants as are edible are usually inaccessible, and less abundant than is the case in the United States.

Wild fruits or nuts occurring in the Philippines are generally of an inferior quality, or are borne in such small numbers, or so high up in the trees, as to make their collection difficult. There are, however, some striking exceptions. The pili nut (*Canarium luzonicum*), considered by most people as superior to the almond, is abundant and is a staple article of commerce in the Philippines. One of the wild mangoes (*Mangifera caesia*) has a fine flavor and is sold in the markets in the regions where it occurs. The duhat (*Eugenia cumini*), although not a native of the Philippines, is thoroughly naturalized at low elevations throughout the Archipelago and is very abundant. The fruit is good, and is sold in large quantities. Among other wild fruits which are commonly seen in the markets are mabolo (*Diospyros discolor*), guava (*Psidium guajava*), santol (*Sandoricum koetjape*), kamachile (*Pithecolobium dulce*) and bignai (*Antidesma bunius*). These, though favorites with the Filipinos, do not seem to appeal to American tastes. A number of others have fine flavors but, in general, are not articles of commerce.

The leaves and young fruits of a number of wild species are cooked and eaten as vegetables. Some of these have very good flavors.

In many cases, the plants might be improved by cultivation, or could serve as stock on which to graft other species, or be used for breeding purposes.

In making a list of edible plants, the species included will depend to a considerable extent on personal judgment. Many

people may consider some of those treated in the present list as worthless, and some common species which are omitted as good. A list which included all the species that could be eaten would be very much longer than the present one. Many of the fruits are so small, so lacking in flavor, or of such poor flavor, that they are practically never eaten, even by people in the woods. It has not been considered worth while to include such species. The number of species which are considered as edible will depend to a considerable extent on the density of the population and the amount of food available. Where the population is dense and food is scarce, many inferior food plants are eaten. The lists of edible plants from neighboring and more densely populated countries include many which in the Philippines are not considered as edible.

The present list of wild Philippine food plants, although probably very far from complete, is much more nearly so than any previous one. It is believed that it contains the better-known species, and it is hoped that it may serve as a beginning on which to build up a better list.

DESCRIPTIONS OF SPECIES

Family POLYPODIACEAE

Genus ATHYRIUM

ATHYRIUM ESCULENTUM Copel. (Figs. 2, 3). PAKÓ.

The young fronds of this fern are eaten in all parts of the Islands, either fresh as a salad or cooked as a green vegetable. In many Philippine towns pakó can always be found in the market.

Athyrium esculentum has twice or thrice pinnate fronds, which are 50 to 80 centimeters long, and about half as wide as long.

This species is widely distributed in the Archipelago and is a characteristic plant on gravel bars and banks of swift streams.

Family OPHIOGLOSSACEAE

Genus HELMINTHOSTACHYS

HELMINTHOSTACHYS ZEYLANICA (L.) Hook. TÚKOD.

Local names: *Tumatanud* (Samar); *kaliti* (Bataan); *túkod* (Pangasinan); *túkod-banuwá* (Rizal); *túngkut-lángit* (Pampanga).

The young fronds of this fern are eaten raw as a salad or cooked as a vegetable.

Helminthostachys zeylanica is an herb with leaves which grow singly from an underground rhizome. The leafstalk is up to 30 centimeters in length and bears at the apex a three-parted, sterile frond. The fertile part is spike-like and arises from the stalk.

This species is locally abundant in thickets at low altitudes. It is rather extensively used for food.

Family CYCADACEAE

Genus CYCAS

CYCAS CIRCINALIS L. (Figs. 4, 5). PÍTÓGO.

Local names: *Bait* (Tawi-Tawi); *bayit* (Basilan); *oliva* (Zambales, Bataan, Laguna, Tayabas, Cavite, Camarines, Mindoro); *olívo* (Cagayan); *patúgo* (Batangas); *pitógo* (Tayabas, Negros Occidental); *sauang* (Cagayan).

In times of famine, the ripe seeds of this plant are prepared as food in some of the isolated parts of the Philippines,

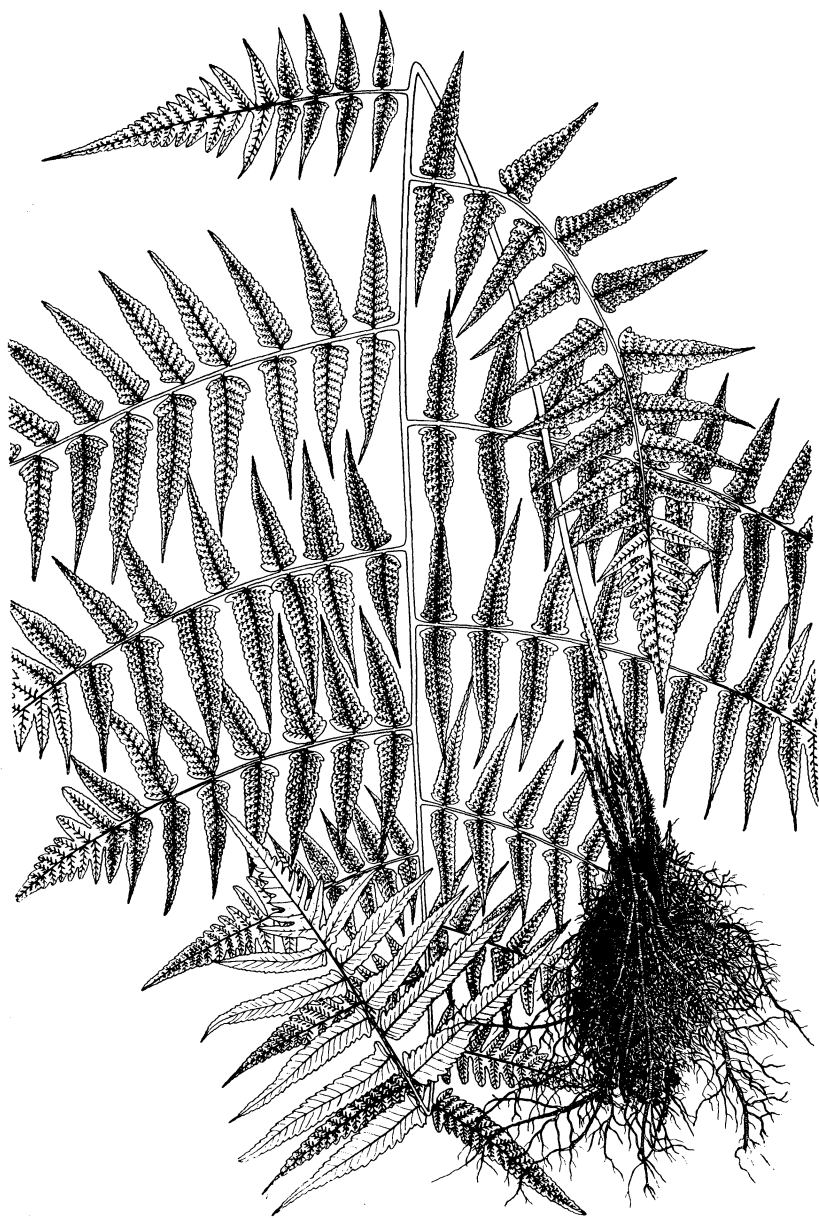


FIGURE 2. *ATHYRIUM ESCULENTUM* (PAKO). $\times 8$.

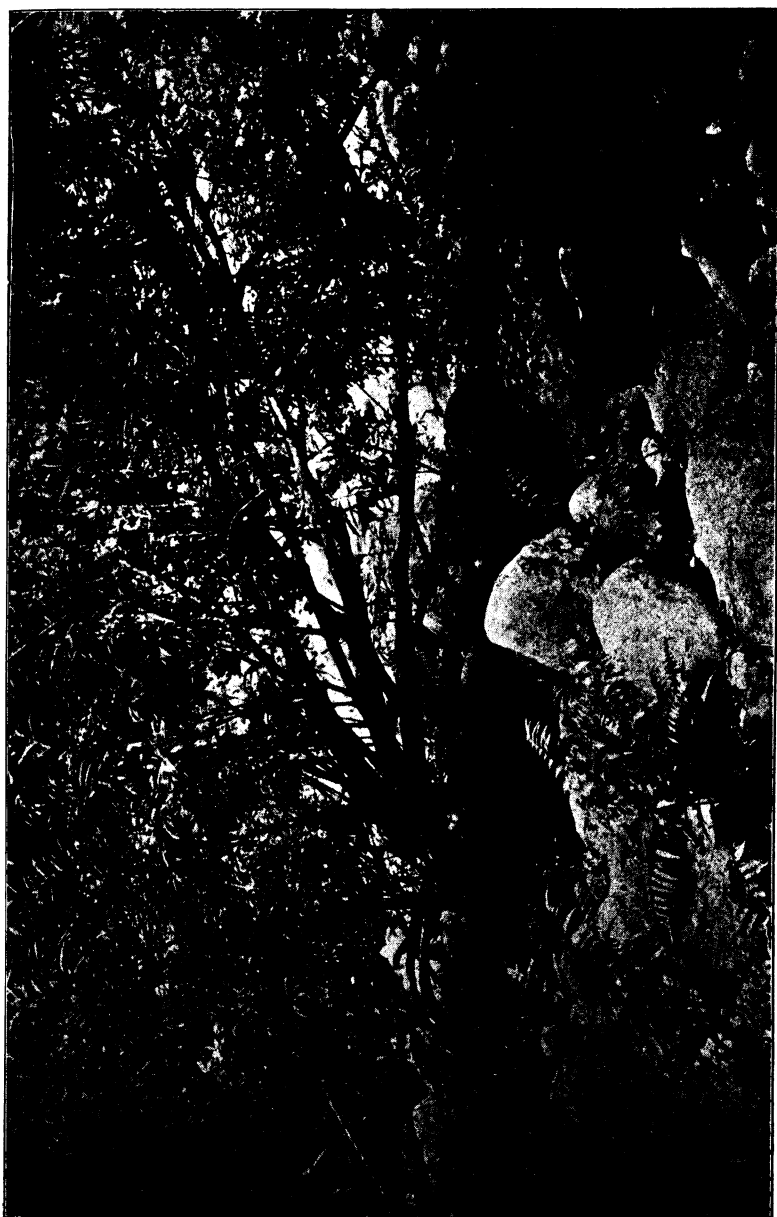


FIGURE 3. HABIT OF *ATHYRIUM ESCULENTUM* (PAKO).

such as the Batanes Islands. In Guam, according to Safford,* *Cycas* seeds are a staple article of food in times when better foods are scarce. As the untreated seeds are poisonous, it is first necessary to eliminate the poisonous principle. In order to do this, the ripe seeds are crushed and the resulting product soaked in water which must be changed several times. The product is then dried, and the flour-like substance cooked in the form of small cakes or as porridge. Bacon † found the starch content of mature seeds to be 31.2 per cent. In India a kind of sago ‡ is prepared from the starch stored up in the trunk, but there is no evidence to show that this product is known in the Philippines. However, the yield of starch is small, as a trunk 4 feet in length produced only five pounds.

In some parts of the Philippines, the young leaves, when about 30 or 40 centimeters long and still rolled up, are cooked and eaten as a vegetable.

The leaves are also used extensively in religious ceremonies.

Cycas circinalis has a stout stem which reaches a height of 12 meters and a diameter of 50 centimeters, although it is usually much smaller than this. The leaves are produced in a cluster at the top of the trunk, are pinnate, and from 0.5 to 1.5 meters long.

This species is widely distributed in the Philippines, but is nowhere abundant except in small areas. It is of local occurrence and is generally found near the seashore. It is decidedly ornamental, and in Manila is planted to a considerable extent for decorative purposes.

Family GNETACEAE

Genus GNETUM

GNETUM GNEMON L.

BÁGO.

A description of this species and its local names are given in the bulletin on fibers.

The fruit is eaten either boiled or roasted, while the young leaves are frequently used as a vegetable. This species is commonly cultivated in some of the towns of Batangas Province, Luzon, for its edible leaves and fruit.

* Safford, W. E., The useful plants of the Island of Guam. Contributions from the United States National Herbarium. Volume IX (1905).

† Bacon, R. F., Starch production in the Philippine Islands. Philippine Journal of Science, Volume 3 (1908), page 96.

‡ Cycad sago. Tropical Agriculturist, Volume 26 (1906), page 386.

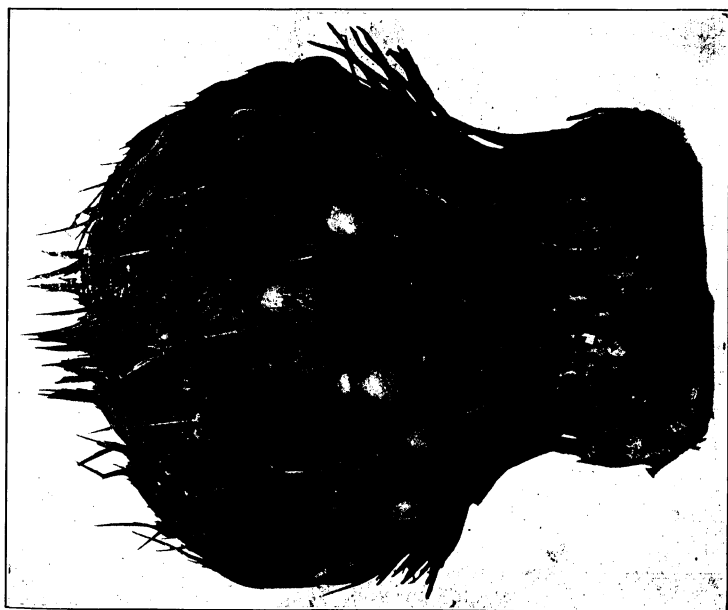


FIGURE 4. FEMALE CONE OF *CYCAS CIRCINALIS* (PITOGO).



FIGURE 5. *CYCAS CIRCINALIS* (PITOGO) WITH MALE CONE.

The bark yields a stout bast fiber.

The fruit of *Gnetum gnemon* is red, ovoid or ellipsoid, pointed, variable in size, but usually not exceeding 2.5 centimeters in length.

According to Heyne,* the young leaves, flowers, and fruits are favorites for stews. He says that in Java the ripe fruits are roasted and pounded while hot into thin, round cakes which are cooked in boiling oil, when they puff up into a porous, crisp cake called *krupuk*.

GNETUM INDICUM (Lour.) Merr. (Fig. 6).

A description of this species and its local names are given in the bulletin on fibers.

The kernels of the fruit are eaten either boiled or roasted. When freshly cut the stems yield a good quality of drinking water; and the plant is commonly utilized for this purpose by people in the forest, when other drinking water is not available.

The bast is very tough and is used in making cordage.

Family ALISMACEAE

Genus **SAGITTARIA**

SAGITTARIA SAGITTIFOLIA L.

Local names: *Gauai-gáuai* (Samar); *tikog* (Camarines).

This plant produces edible tubers.

Sagittaria sagittifolia is a coarse herb with arrow-shaped leaves. The flowers are white with a yellow center.

This species is distributed in swamps and muddy places from Luzon to Mindanao.

Family HYDROCHARITACEAE

Genus **ENHALUS**

ENHALUS ACOROIDES Steud.

LAMÓN.

Local names: *Lamón* (Tagalog, Bikol); *mariu-báriu* (Bikol); *pallaipat-baibai* (Union).

In some parts of the Malayan region the seeds of this plant are eaten either raw or cooked, but this use is not recorded from the Philippines. The fruits are about the size of a large walnut and contain eight or nine green seeds.

Enhalus acoroides has ribbon-like leaves which rise from the base of the plant. The flowers are borne singly on long, rather slender stalks.

* Heyne, K., *De Nuttige Planten van Nederlandsch-Indië*, Volume 1, page 20.



FIGURE 6. *GNETUM INDICUM*. $\times \frac{1}{2}$.

This plant grows submerged in salt water, and in some parts of the Philippines is abundant in the shallow waters of sheltered bays. It is distributed from Luzon to Mindanao.

Genus **OTTELIA**

OTTELIA ALISMOIDES Pers.

KALABÓA.

Local names: *Espáda* (Spanish-Filipino); *kalabóa* or *kalabúa* (Bulacan, Rizal); *lantén-sápa* (Bataan); *lanting* (Camarines); *tarabang* (Ilocos Norte).

Filipino children eat the fruit of this plant, and in some parts of the Archipelago the petioles and leaves are used as a vegetable.

Ottelia alismoides is an herb growing in fresh water. The leaves are extremely variable and have short or long petioles according to the depth of the water. The blades of the submerged leaves are often narrow; of the floating ones, ovate or somewhat rounded, with a rounded or heart-shaped base. They are 5 to 20 centimeters long and wide. The flowers are white and about 2 centimeters in length, the fruit oblong and from 2.5 to 4 centimeters long.

This species is distributed throughout the Philippines in shallow lakes and slowly running streams.

Genus **VALLISNERIA**

VALLISNERIA GIGANTEA Graebn.

SABUTÁN-BUÁIA.

Local names: *Bal-liba* (Pangasinan); *sabután-buáia* (Rizal).

The younger leaves of this species are cooked and eaten as a vegetable.

Vallisneria gigantea grows submerged in fresh water and is characterized by long, ribbon-like leaves. The length of the leaves varies from a few centimeters to 2 meters or more, according to the depth of the water. They are thin and 1 centimeter or less in width.

This species is common and widely distributed throughout the Philippines in shallow lakes and slowly running streams.

Family **GRAMINEAE**

The young shoots of many of the bamboos are cooked and eaten as a vegetable. The bamboos are discussed in a separate bulletin.

Genus **COIX**

COIX LACHRYMA-JOBI L. var. **MA-YUEN** (Roman.) Staff.

ILÁS.

This variety of *Coix lachryma-jobi* is characterized by the covering around the seed being thin and rather soft in texture. It is cultivated to a very limited extent in the Philippines where,

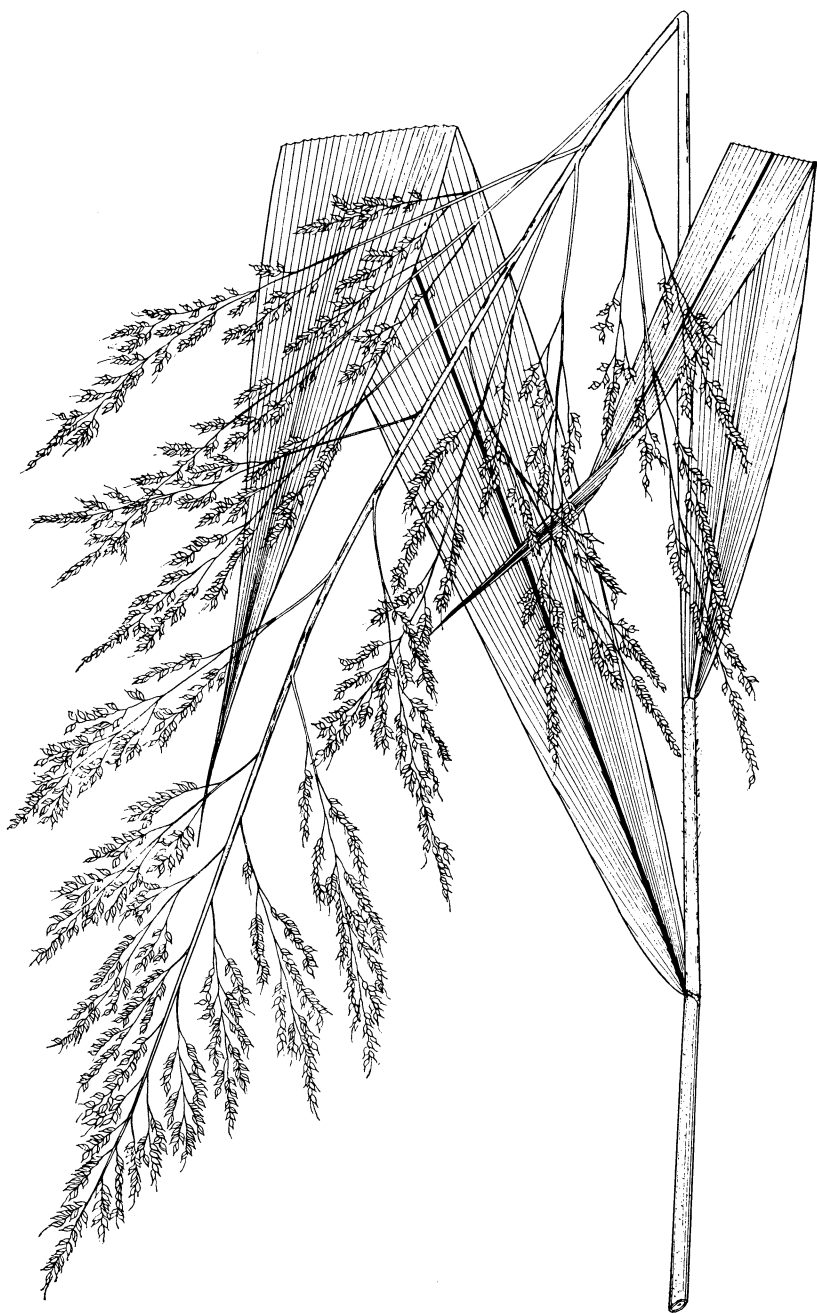


FIGURE 7. *PANICUM PALMAEFOLIUM* (AGUSAHIS). $\times 1$.

as in India, the cultivation appears to be confined to the hill people. The seeds are prepared in various ways, and used for food and in the manufacture of fermented drinks. Blanco (1837) states that the Chinese gathered the fruits in large quantities in the provinces of Laguna and Pangasinan, and prepared from them a kind of flour which was reputed to be excellent for people in delicate health. This use of the seeds now appears to be obsolete, or at most must be local and limited.

Genus **PANICUM**

PANICUM PALMAEFOLIUM Koen. (Fig. 7).

AGUSÁHIS.

Local names: *Agusáis*, *agusáhis* or *hagusáhis* (Camarines); *yas* (Benguet).

During times of scarcity the grains of this grass are used in Camarines and by the Ilokos as a substitute for rice. The grain is harvested and then roasted in a large pot. After roasting it is husked by pounding. The glumes are then removed and the seeds are cooked with sugar.

Panicum palmaefolium is a grass 1 to 3 meters in height. The leaves are 2 to 8 centimeters in width and longitudinally folded. The seeds are about 3 millimeters long and are borne in large numbers on terminal shoots.

This species is common and widely distributed from Luzon to Mindanao.

Family **CYPERACEAE**

Genus **ELEOCHARIS**

ELEOCHARIS DULCIS (Burm. f.) Trin. (Fig. 8).

APÚLID.

Local name: *Apúlid* (Tagalog, Bikol).

The tubers of this species are dark colored, 2 to 2.5 centimeters in diameter, and are boiled and eaten as a vegetable. They are sold in large numbers in the Manila markets during the months of October to December.

Eleocharis dulcis is a tufted sedge with round, green stems, the bases of which are usually pale and covered with dry, brown sheaths. The stems are about a meter in height, about a centimeter in diameter, and are bluntly terminated by an erect spike, which is 2 to 3 centimeters in length. The bracts of the spike are rounded, smooth, and overlapping.

This species is of local occurrence in the Philippines and is found in open, wet places and in shallow water.

Family **PALMAE**

The palms are discussed in a separate bulletin.

The young seeds of *Nipa*, *Corypha elata* (buri), and *Arenga pinnata* (sugar palm) are employed as food, chiefly in the form



FIGURE 8. *ELEOCHARIS DULCIS* (APULID). $\times \frac{1}{2}$.

of sweetmeats. The stems of some species of *Calamus* have a swollen, basal portion containing starch. This is eaten by woodsmen. The bud (locally called úbud) of most palms is edible. In the Philippines the buds of the following are known to be used for foods: *Areca catechu* (betel nut), *Arenga ambong*, *Arenga pinnata* (sugar palm), some species of *Calamus* (rattans), *Cocos nucifera* (coconut), *Corypha elata* (buri), *Heterospathe elata*, and probably all other species of *Heterospathe*, *Metroxylon sagu* (sago palm), the different species of *Livistona* (anahau), and *Oncosperma* (anibong). The buds of many other palms are certainly edible. The most valuable palm from the standpoint of food is the coconut (*Cocos nucifera*).

Alcoholic drinks are manufactured from the sap of *Nipa fruticans*, *Cocos nucifera*, *Corypha elata*, *Arenga tremula*, and *Metroxylon sagu*, while an inferior product is made from *Areca caliso* and some species of *Caryota*.

Vinegar is produced from the sap of *Nipa fruticans*, *Arenga pinnata*, *Cocos nucifera*, and *Corypha elata*.

Starch is obtained from the stems of *Corypha elata*, *Arenga pinnata*, and *Metroxylon rumphii*, and sometimes from species of *Caryota*.

Sugar is produced from the sap of *Arenga pinnata* and *Corypha elata*. The *Nipa* palm is a very promising commercial source of sugar, while the juice of *Corypha*, used in connection with that of sugar cane, might also be a commercial possibility.

Syrup is manufactured from the sap of *Corypha elata*.

Some of the species of *Calamus* (rattan) contain water utilized for drinking purposes.

The nut of *Areca catechu*, sprinkled with lime and wrapped with the leaf of *Piper betle* (ikmo), is called buyo and is used for chewing. Various other palm nuts are sometimes substituted for those of *Areca catechu*. These include *Adonidia merillii*, *Areca caliso*, *Areca ipot*, *Heterospathe elata*, *Oncosperma* and *Pinanga*.

Family ARACEAE

Genus ACORUS

ACORUS CALAMUS L.

LUBIGÁN.

A description of this species and its local names are given in the bulletin on resins, gums, and oils.

This species is used as a condiment.

Genus **ALOCASIA**

ALOCASIA MACRORRHIZA (L.) Schott.

BfGA.

Local names: *Badiáng* (Occidental Negros, Cuyos); *bagiáng* (Bisaya); *bíga* or *bigá* (Bulacan, Pangasinan, Pampanga, Manila, Laguna, Camarines, Samar, Leyte, Mindoro, Romblon, Oriental and Occidental Negros, Capiz, Iloilo); *biga-bíga* (Manila); *bíra* (Ilocos Norte, Cagayan, Pangasinan); *gábi* (Manila, Camarines, Cavite, Tayabas, Batangas); *galiáng* (Bisaya); *gandús* (Pampanga); *malabíga* (Bataan); *palauán* (Occidental Negros); *ragiáng* (Bisaya); *sinín-ába* (Ilocos Norte); *taliáng* (Bisaya).

The stems and corms of this plant are utilized to some extent in the Philippines as food. They contain numerous, needle-like crystals, which are destroyed by roasting or boiling. However, they are little used as food, except when better kinds are scarce. The food value is due to the starch content, which is apparently small. Quisumbing,* who studied the corms of a two-year old plant, reported that the percentage of starch when the stems were fresh was 2.75, and when dry 18.80.

The leaves and petioles of this plant also contain minute, stinging crystals. As the plant is common in towns, being frequently planted for ornamental purposes, children sometimes take portions of the leaves or petioles into their mouths with rather painful results. The remedy indicated in such cases is vinegar or lemon juice.

Alocasia macrorrhiza has large, arrow-shaped leaves and a rather large trunk. It is exceedingly variable in size, depending on its habitat and the age of the plant.

This species is widely distributed in the Philippines. It occurs in open, wet lands, along streams, and in some types of humid forests.

Genus **AMORPHOPHALLUS**

AMORPHOPHALLUS CAMPANULATUS (Roxb.) Blume. (Figs. 9, 10).

PUNĠÁPUNG.

Local names: *Anto*, *oroí*, *pamangkilon* (Bisaya); *bágang* (Cagayan); *bagóng* (Camarines, Jolo); *punġápung*, *ápong*, *túkud-lánġit* (Tagalog); *tige nga nagmanto* (Pangasinan); *tókod-bánua* (Pampanga).

The petioles of this plant are frequently boiled for feeding hogs. The corms, cut into slices and boiled, are also used for hog food. The leaves and corms contain very numerous, stinging crystals, which are destroyed by boiling. In some districts,

* Quisumbing, F. A., The cultivated root-producing aroids. Philippine Agriculturist and Forester, Volume 3 (1914), pages 85 to 98.

in times of scarcity, this plant is utilized to a slight extent as human food.

The petioles of *Amorphopallus campanulatus* are rough and mottled. The blades are divided into numerous lobes. The "flower" is dull purple and up to 30 centimeters in diameter. It emits a very offensive odor, similar to that of putrid meat. This odor attracts flies, which pollinate the plant.

This species is widely distributed at low and medium altitudes in the settled areas of the Philippines.

Genus CYRTOSPERMA

CYRTOSPERMA MERKUSII Schott.

PALAUÁN.

Local name: *Palauán* (Bisaya); *galiáng* (Bikol).

The large, starchy rootstocks are eaten when food is scarce, and in some regions are a staple vegetable.

Cyrtosperma merkusii is an herbaceous plant with very large leaves and large, purplish "flowers". The petioles are up to 2.5 meters in length and 10 centimeters in diameter. The leaves are up to 1.5 meters in length.

This species is found in the central and southern Philippines, in wet ravines. It is also grown to a limited extent in the Visayan Islands and is quite commonly cultivated in Camarines.

Genus PISTIA

PISTIA STRATIOTES L.

KIÁPO.

Local names: *Alulúan* (Cagayan); *dagailó* (Agusan); *darahiró*, *daraidó*, *darairó* (Bikol); *kayápo* (Bisaya); *lolóan* (Iloko); *kiápo* (Tagalog).

This plant is sometimes used for feeding hogs. For this purpose it is boiled, to destroy the minute, stinging crystals which are very abundant in the leaves. It is never cultivated in the Philippines. Ridley states that in Singapore it is commonly grown in small ponds by the Chinese, who use it for feeding hogs. Mercado states that it can be used with soap for removing stains from clothing; and that vessels which have contained oil can be cleaned and purified by filling them with water and kiápo plants, allowing this mixture to remain in the vessel a few days, and then scrubbing the interior with the plant.

Pistia stratiotes occurs in great abundance on the surfaces of stagnant water and slowly moving streams. The leaves are produced in a rosette, which gives the plant an appearance something like that of ordinary lettuce.

This species is common and widely distributed at low and medium altitudes in the Philippines.



FIGURE 10. AMORPHOPHALLUS CAMPANULATUS (PUNGAPUNG) WITH FULLY OPENED FLOWER.



FIGURE 9. AMORPHOPHALLUS CAMPANULATUS (PUNGAPUNG) WITH FLOWER BUD.

Genus *SPATHIPHYLLUM**SPATHIPHYLLUM COMMUTATUM* Schott.

Koorders states that in Celebes the young leaves of this plant are cooked and eaten as a vegetable. This use is not reported from the Philippines.

Spathiphyllum commutatum is an herb about 1 meter in height. It has large leaves and large, white "flowers."

Family BROMELIACEAE

Genus *ANANAS**ANANAS COMOSUS* (Linn.) Merr.

PINEAPPLE.

In some parts of the Philippines, particularly in parts of Palawan, the pineapple has become thoroughly naturalized.

Family TACCACEAE

Genus *TACCA**TACCA PINNATIFIDA* Forst.

YABYÁBAN.

Local name: *Yabyában* (Manila vicinity).

This plant has somewhat rounded or oval tubers up to 8 centimeters in diameter, perhaps larger in rich soil. Bacon * found that the tubers yielded 22.3 per cent of starch and commented on the great ease with which the starch could be obtained in a pure state. It is known in commerce as Polynesian or East Indian arrowroot starch. The plant is, however, apparently little utilized in the Philippines at the present time, and is never cultivated. Blanco states that formerly very white *Tacca* flour or starch was brought to Manila in considerable quantity, and formed an agreeable food when eaten with sugar and that, mixed with white flour, it was used in making bread. In preparing the flour, the Filipinos rub the tubers under water with a rough stone, allow the starch to settle, pour out the water, and then dry the product. The starch must be washed several times to eliminate the bitter principle found in the fresh tubers. In some parts of Polynesia, India, and in parts of tropical Africa, *Tacca pinnatifida* is an important food plant and considerable attention is given to its culture.

Tacca pinnatifida is a large, coarse herb. The petioles are 1.5 to 2 centimeters in diameter and often nearly a meter in length. The leaves are 1 to 1.5 meters in diameter and divided

* Bacon, R. F., Starch production of the Philippine Islands. Philippine Journal of Science, Volume 3 (1908), page 96.

into three parts, which are again divided. The flowers are green and purplish. The fruit is ellipsoid or ovoid, smooth, yellowish, six-ribbed, and 3 to 4 millimeters in length.

This species is widely distributed near the seashore in the Philippines.

Family DIOSCOREACEAE

Genus DIOSCOREA

DIOSCOREA DIVARICATA Blco.

KIRÓI.

Local names: *Buloi* (Bataan); *duyan* (Pangasinan); *kirói* (Tagalog); *ubog* (Rizal).

The underground tubers are fleshy, slender, and attain a length of over 2 meters. They are of a fair quality either baked or boiled.

Dioscorea divaricata is a vine with slender stems armed with scattered, short spines. The leaves are somewhat spear-shaped and usually 10 to 18 centimeters in length. The flowers are very small, yellowish green, and are borne on axillary inflorescences. The fruit is divided into three narrow, semi-circular lobes, which are about 2 centimeters wide and long, and contain flat, winged seeds.

This species has been reported from Pangasinan, Bataan, Rizal, and Laguna. It is not cultivated.

DIOSCOREA ESCULENTA (Lour.) Burkill.

YAM OR TUNĠÓ.

Local names: *Anég* (Cagayan); *boga* (Union); *kamiging* (Camarines); *tugi* (Tayabas); *tonġó* or *tunġó* (Bulacan, Manila, Rizal).

The tubers of this species are prepared like potatoes. There are apparently several varieties, and the best of them are considered excellent.

Dioscorea esculenta is a thorny, climbing vine. The leaves are somewhat kidney-shaped at the base, pointed at the tip, and somewhat hairy, the young ones densely so beneath. The roots are protected by thorny, subterranean branches. The flowers are green, about 4 millimeters in diameter, and are borne on long, slender spikes, which usually occur singly in the axils of the leaves.

This species is generally distributed throughout Luzon and is found in the Batanes Islands. It is also cultivated to some extent, and the yield of tubers is said to be very satisfactory.

DIOSCOREA HISPIDA Dennst.

NAMÍ.

Local names: *Kalút*, *kulót*, *korót* (Zambales); *karóte* (Zamboanga); *ka-yos* (Tayabas); *korót* (Samar, Leyte); *namí* (Mindoro, Rizal); *namó* (Camarines).

The tubers are poisonous, but are rendered edible by being sliced and kept in running water from 36 to 48 hours.

Dioscorea hispida is a climbing vine and is characterized by compound leaves with three very large leaflets. The young stems, petioles, and leaflets are hairy. The flowers are small, pale yellow, and are borne on compound inflorescences, which are usually large. The fruits are about 5 centimeters long and divided into three thin lobes, which are more than twice as long as wide.

This species is distributed from the Mountain Province of Luzon to Basilan. It is common in the central provinces of Luzon and also in the northern part of Mindanao. It is rarely cultivated.

DIOSCOREA LUZONENSIS Schauer.

PAKIT.

Local names: *Aribu-bu*, *kamánñög* (Union); *kirini*, *mayatbang* (Rizal); *paket* or *pakit* (Laguna); *ubag* (Bulacan).

The long, slender, underground tubers are collected and prepared in the same manner as potatoes.

Dioscorea luzonensis is a twining vine with somewhat arrow-shaped leaves. The flowers are small, and occur on spikes which grow in clusters from the axils of the leaves. The fruits are divided into three thin, somewhat semi-circular lobes, and contain thin, winged seeds.

This species has been reported only from the island of Luzon and is found in the following provinces: Ilocos Norte, Bontoc, Lepanto, Union, Bulacan, Zambales, Rizal, Laguna, and Batangas. It is not cultivated.

DIOSCOREA PENTAPHYLLA L.

LIMA-LIMÁ.

Local name: *Lima-limá* (Rizal, Manila vicinity); *sapang* (Bisaya).

The large, starchy tubers are eaten like potatoes.

Dioscorea pentaphylla is a vine growing from stout, underground tubers. The stems bear scattered, small spines. Small tubers are found in the axils of the leaves, which are compound, with usually five to seven leaflets. These are pointed at the tip, smooth or nearly so, and 8 to 15 centimeters long. The flowers are small, yellowish white, somewhat fragrant, and borne in large numbers on compound, axillary inflorescences.

This species is common and widely distributed in the Philippines, but is not extensively cultivated.

Family MUSACEAE

Genus MUSA

MUSA spp.

WILD BANANA.

A number of wild bananas are eaten in the Philippines. The fruits are, however, full of seeds and much inferior to the cultivated varieties. The flowering bud of some varieties is also used as a vegetable.

Family ZINGIBERACEAE

Genus ALPINIA

ALPINIA PYRAMIDATA Bl.

LANGKAUÁS.

Local names: *Langkauás* (Rizal, Camarines); *langkuás* (Bisaya, Manobo, Banuaon, Mangguangan); *pal-la* (Mandaya, Lanao).

The root is used as a condiment. Its flavor is similar to ginger, but much less pungent. It is also cooked with the sap of sugar cane or with honey and water to produce an intoxicating beverage.

Alpinia pyramidata is a coarse herb. The leaves are about 45 centimeters long, 8 centimeters wide, pointed at both ends, the upper surface smooth, and the lower hairy. The flowers are white, about 3 centimeters long, and borne on rather large, compound inflorescences.

This species is distributed from central Luzon to southern Mindanao, and is occasionally cultivated on a very small scale.

Genus CURCUMA

CURCUMA LONGA L.

DILÁU.

A description of this species and its local names are given in the bulletin on resins, gums and oils.

The roots are commonly sold in the Manila markets, and are used as a condiment and for coloring food and other materials. The root of *Curcuma longa* is a stimulative aromatic, bearing some resemblance to ginger in its operation. In India it is much employed as an ingredient of curry powder.

According to Heyne,* in Java a flour is made from this plant in the same way as from cassava and arrowroot. It is used for all kinds of dainties.

Genus VANOVERBERGHIA

VANOVERBERGHIA SEPULCHREI Merr.

The fruit is sub-ellipsoid, 2 to 2.5 centimeters long, and edible. It contains numerous seeds, which are about 3 millimeters long.

* Heyne, K., De Nuttige Planten van Nederlandsch-Indië, Volume 1, page 209.

Vanoverberghia sepulchrei is an erect, coarse, smooth plant reaching a height of 4 meters. It has a strong anise-like odor. The rhizome is 5 centimeters in diameter, with a red exterior. The stems are up to 5 centimeters in diameter. The leaves are alternate and two-ranked. The lower are rather short, and increase in length toward the tip of the stem. The upper leaves are up to 40 centimeters in length and 10 centimeters in width. The inflorescence is terminal, with a flower-bearing portion up to 20 centimeters in length. The flowers are very numerous, about 4.5 centimeters long, pink outside and white within.

This species has been reported only from Bontoc and Capiz.

Family PIPERACEAE

Genus PIPER

The leaves of several species of *Piper* are used as substitutes for those of *Piper betle* for chewing with the seeds of *Areca catechu*.

PIPER UMBELLATUM var. **SUBPELTATUM** C.DC.

KUBÁMBA.

Local names: *Bal-lai* (Bontoc); *kamámba* (Tayabas); *kubámba* (Bulacan, Rizal, Laguna, Capiz); *kuyo* (Davao); *pugapong* (Bukidnon).

The young leaves and spikes are boiled as a condiment with fish.

Piper umbellatum is a vine with large, alternate, thin, heart-shaped leaves. The flowers are very small, and are densely crowded on spikes which are about 10 centimeters in length.

This species is distributed from northern Luzon to the southern part of the Sulu Archipelago.

Family FAGACEAE

Genus CASTANOPSIS

CASTANOPSIS PHILIPPENSIS Vid. (Fig. 11).

Local names: *Batíng*, *bayuktuan* (Rizal); *talakátak* (Camarines); *uláyan* (Samar).

The fruit grows on spikes, and contains an edible, oblong nut up to 3.5 centimeters in length. The flavor resembles that of a chestnut.

Castanopsis philippensis is a tree which is usually 15 to 25 meters in height and reaches a diameter of 50 centimeters. The leaves are alternate, smooth, pointed at both ends, and from 4 to 15 centimeters long.

This species has been reported from Rizal, Camarines, Mindoro, Samar, and Leyte. It is apparently not abundant.

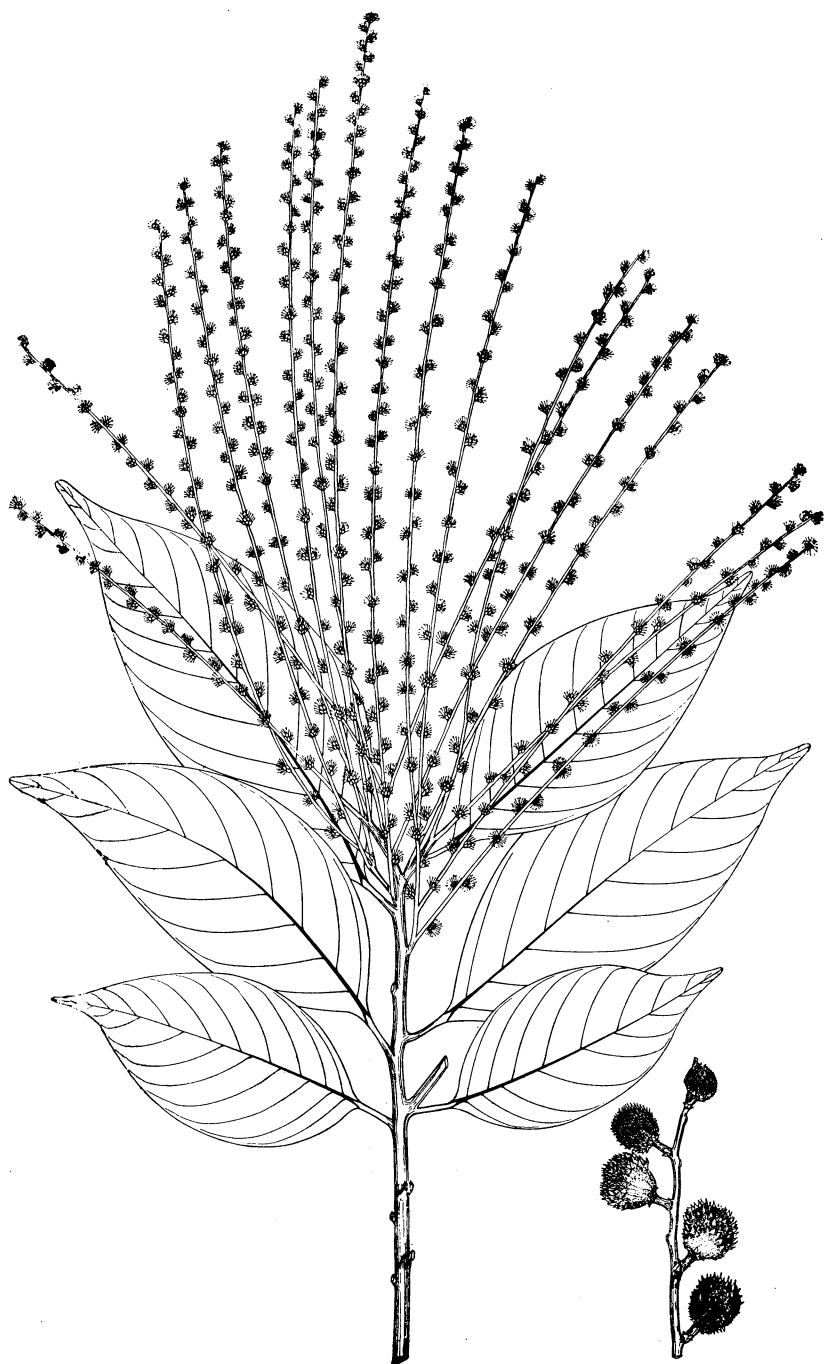


FIGURE 11. *CASTANOPSIS PHILIPPENSIS*. $\times \frac{1}{2}$.

There are several other species of this genus having edible nuts, but they are of little importance as a source of food.

Family MORACEAE

Genus ALLAEANTHUS

ALLAEANTHUS GLABER Warb. (Fig. 12). MALAMBÍNGAN.

A description of this species and its local names are given in the bulletin on fibers.

The young leaves and flowers are cooked and used for food.

ALLAEANTHUS LUZONICUS F. Vill. HIMBABA-Ó.

Local names: *Anabó* (Masbate); *babáyan* (Zambales, Bataan); *bagli* (Moro); *buñgon* (Union); *himbaba-ó* (Pampanga, Rizal, Bataan, Manila, Cavite, Batangas); *lanéte* (Laguna, Tayabas).

The flowers and leaves when cooked are eaten as a vegetable.

Allaeanthus luzonicus is a tree reaching a height of 15 meters and a diameter of 30 centimeters. The leaves are alternate, pointed at the tip, and rounded at the base. The lower surface is very hairy. The flowers are very small, and are borne on very long, slender, spike-like, flowering branches.

Genus ARTOCARPUS

ARTOCARPUS COMMUNIS Forst. (Figs. 13, 14). BREADFRUIT or KAMÁNSI.

A description of this species and its local names are given in the bulletin on fibers.

This species has a large, ellipsoid fruit up to 20 centimeters in diameter, which contains ovoid or somewhat rounded seeds that are about 2.5 centimeters in diameter and edible.

Artocarpus communis is distributed throughout the Philippines, both cultivated and wild. There is a cultivated, seedless variety called rímas. The wild kind, known as antipólo, is inferior to the large seeded variety known as ugúb or kamánsi.

ARTOCARPUS ELASTICA Reinw. GUMÍHAN.

A description and figure of this species and its local names are given in the bulletin on fibers.

The fruit contains a sweet, edible pulp of fair or good quality, embedded in which are numerous seeds which are roasted and eaten like peanuts.

ARTOCARPUS INTEGRA (Thunb.) Merr. (Figs. 15, 16). NANGKÁ.

A description of this species and its local names are given in the bulletin on fibers.

The fruit is green, oblong, fleshy, and 25 to 60 centimeters in length. It is the largest known tree-fruit in the world, some-



FIGURE 12. *ALLAEANTHUS GLABER* (MALAMBINGAN). X1.

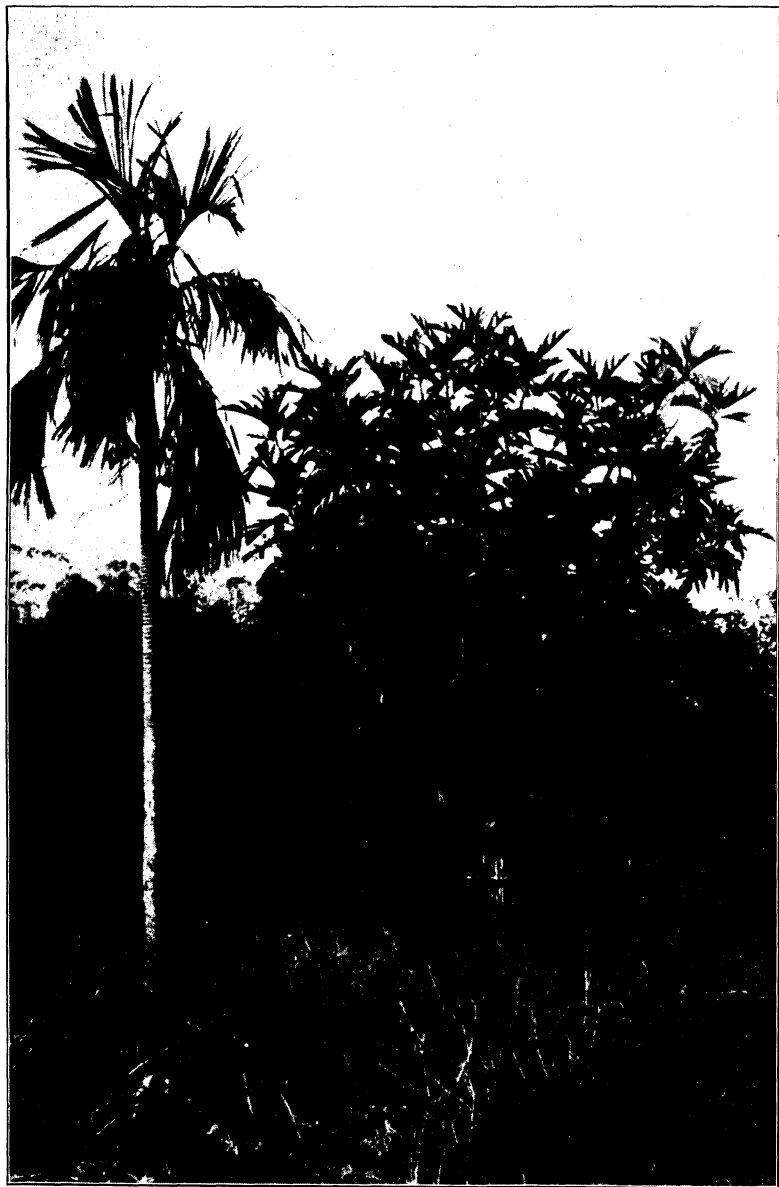


FIGURE 13. *ARTOCARPUS COMMUNIS* (BREADFRUIT OR KAMANSI).

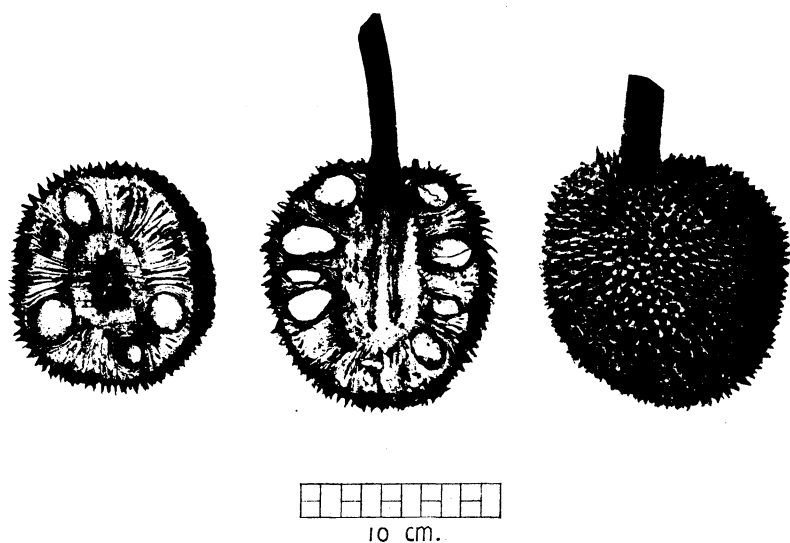


FIGURE 14. *ARTOCARPUS COMMUNIS* (BREADFRUIT OR KAMANSI).

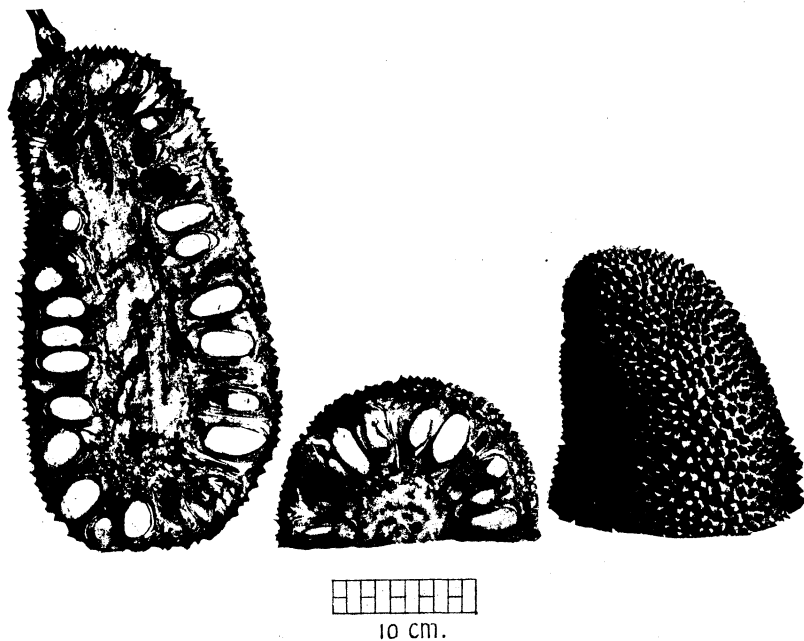


FIGURE 15. *ARTOCARPUS INTEGRA* (NANGKA).

times exceeding 35 kilos in weight. The flesh is rich yellow in color, sweet, and very aromatic. It makes good preserves and other sweets.

ARTOCARPUS ODORATISSIMA Blanco. (Fig. 17).

MÁRANG.

Local names: *Márang* (Basilan, Davao, Zamboanga); *olói* (Mindoro).

The fruit of this species is very large; the flesh white, sweet, very rich, juicy, and aromatic.

Artocarpus odoratissima is a tree reaching a height of 12 to 25 meters and a diameter of 40 centimeters. The leaves are very rough, large, and entire or lobed.

This species has been reported only from Mindoro, Mindanao, and Basilan; but it is apparently fairly common in Mindoro, Cotabato, Lanao, Davao, Zamboanga, and Basilan.

Genus **CONOCEPHALUS**

CONOCEPHALUS VIOLACEUS (Blanco) Merr.

HANÓPOL.

Local names: *Anópol* (Albay); *anúpol* (Tayabas); *bagauak*, *hanópol* (Rizal, Laguna, Camarines, Polillo); *kanúpul* (Tayabas); *tagimi* (Basilan).

When this vine is cut, water exudes in such copious quantities that it is used for drinking purposes and for cooking rice.

Conocephalus violaceus is a large vine with alternate leaves, which are pointed at the tip and usually rounded at the base. They are about 12 to 15 centimeters wide and 15 to 20 centimeters in length. The flowers are purple or white, and are borne in dense heads.

Genus **FICUS**

FICUS ULMIFOLIA Lam. (Fig. 18).

ISÍS.

Local names: *Apas*, *kuplás* (Benguet); *apulás* (Bontoc); *asis* (Nueva Ecija, Batangas); *hagúpit* (Laguna); *isis* (Bataan, Laguna); *kikkig* (Cagayan); *pakiling* (Pampanga); *upling-gúbat* (Polillo); *upplás* (Benguet, Union, Babuyanes); *tabú* (Mindoro); *yayasi* (Batanes Islands).

The fruits are edible and have a good flavor, especially when eaten with sugar and cream. They are soft and fleshy when mature, orange red to purple, somewhat rounded, and about 1.5 centimeters long.

The leaves of this species are very hard and rough, and are used for cleaning cooking utensils and scouring hardwood floors, stairs, windowsills, etc.; and also in place of sandpaper for polishing wood, when sandpaper is not available.

Ficus ulmifolia is a shrub or small tree from 3 to 5 meters in height. The leaves are alternate, variable in shape, subentire, undulately lobed or coarsely toothed, sometimes deeply or narrowly lobed. The base is rounded and three-nerved. The

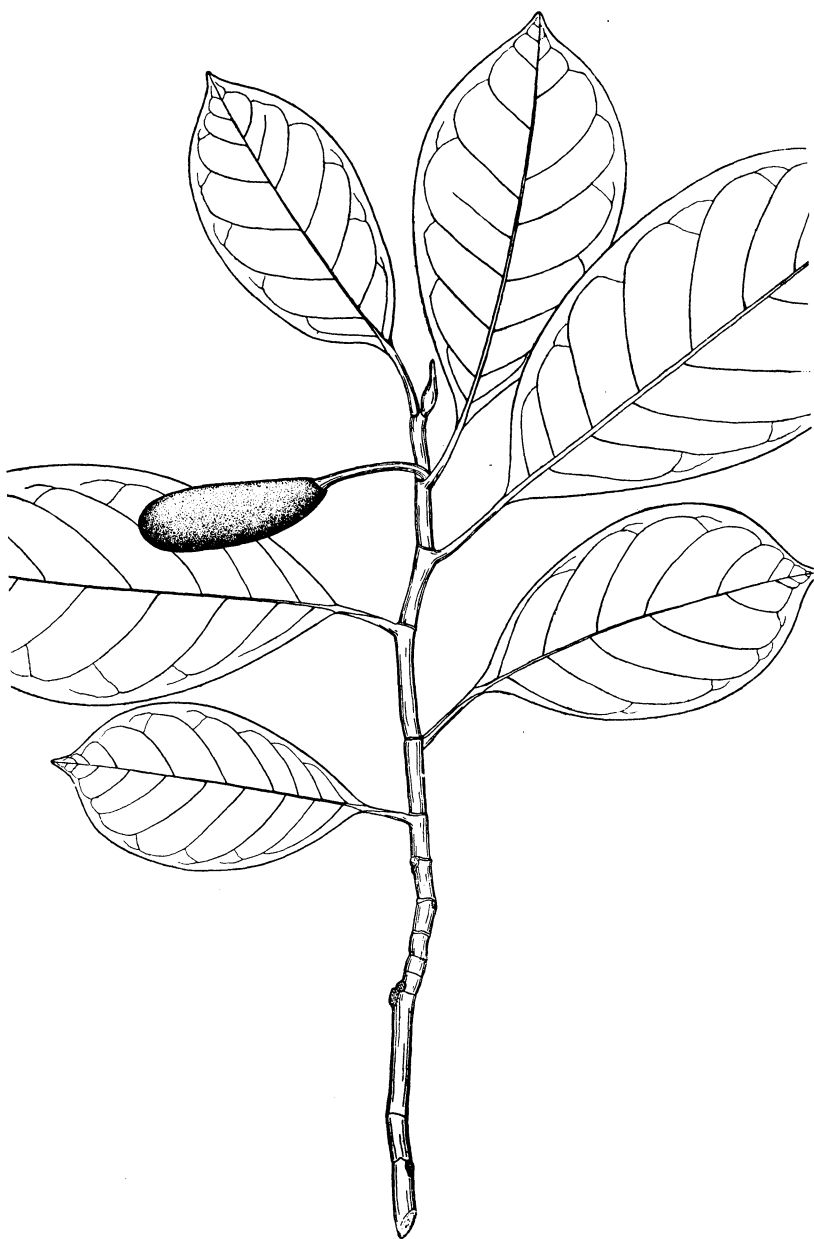


FIGURE 16. *ARTOCARPUS INTEGRA* (NANGKA). $\times \frac{1}{2}$.

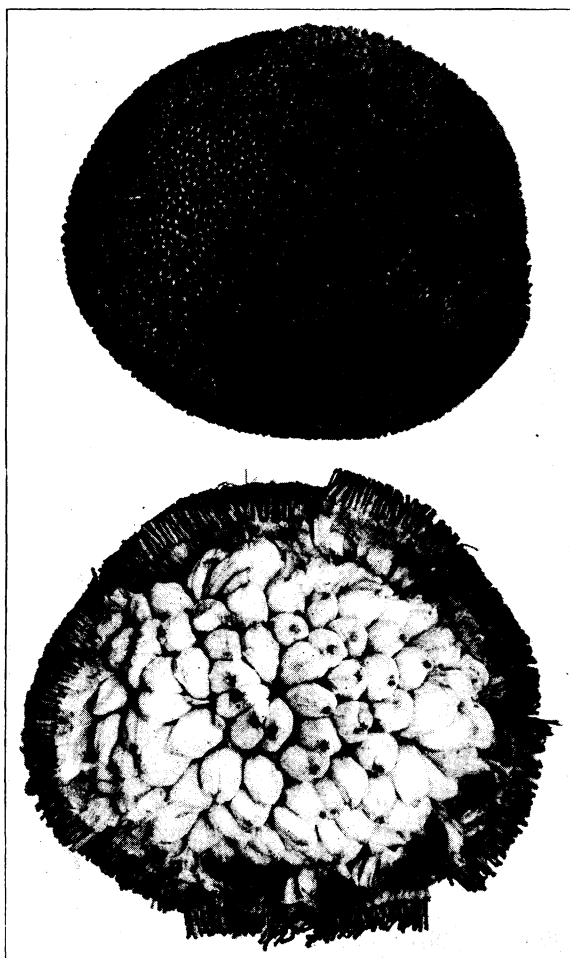


FIGURE 17. *ARTOCARPUS ODORATISSIMA* (MARANG).

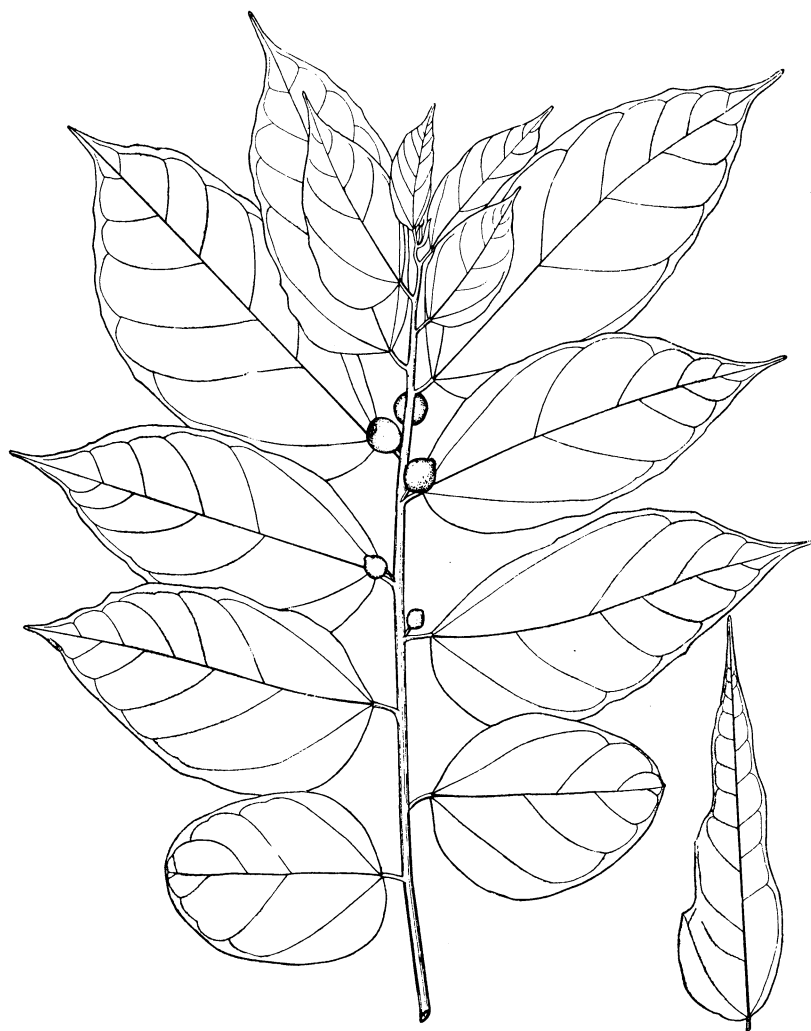


FIGURE 18. *FICUS ULMIFOLIA* (ISIS). $\times \frac{1}{2}$.

leaves are 9 to 17 centimeters long, and 4 to 8 centimeters wide. The fruits are axillary and solitary or in pairs.

This species is common in thickets and open places throughout the Philippines.

Genus **GYMNARTOCARPUS**

GYMNARTOCARPUS WOODII Merr. (Fig. 19).

MALANANGKÁ.

Local names: *Anubíng-kadiós*, *anubíng na nangká* (Laguna); *bayukó* (Camarines); *bíga* (Samar); *buratu* (Cagayan); *malabokbók* (Zambales); *malanangká* (Bataan, Laguna); *pángi* (Zambales); *sulípa* (Bataan); *tabulí* (Camarines).

The fruit of this species is somewhat rounded, 6 to 9 centimeters in diameter, and contains 6 to 12 chestnut-like seeds, 2 or 3 centimeters long. The seeds are eaten either roasted or boiled.

Gymnartocarpus woodii is a tree reaching a height of about 20 meters and a diameter of about 40 centimeters. The leaves are alternate, oblong, pointed at the tip, rounded or pointed at the base, 8 to 15 centimeters long, and 5 to 7 centimeters wide. The fruit, when dry, is irregularly and obscurely lobed.

This species occurs in central and southern Luzon, Mindoro, Samar, and Leyte.

Family **URTICACEAE**

Genus **ELATOSTEMA**

ELATOSTEMA Spp.

Some of the more fleshy members of this genus are cooked and eaten as greens.

Elatostema is a genus of small herbaceous plants which usually have soft, somewhat fleshy leaves. The leaves are three-nerved, alternate or with a minute leaf opposite each normal one. They occur on the stem in two rows and are almost or entirely without individual stems. The flowers are very small, and are crowded in dense, axillary heads.

Species of *Elatostema* are very common in moist forests throughout the Archipelago.

Family **OLACACEAE**

Genus **ANACOLOSA**

ANACOLOSA LUZONIENSIS Merr. (Figs. 20-22).

GALÓ.

Local names: *Alluloi*, *malabignái* (Bataan); *galó* (Cavite); *castañas* (Span. in Mindoro); *matobató* (Masbate); *yu-pa* (Nueva Vizcaya).

This plant produces a nut which is of good quality and flavor.



FIGURE 19. *GYMNARTOCARPUS WOODII* (MALANANGKA). $\times \frac{1}{2}$.
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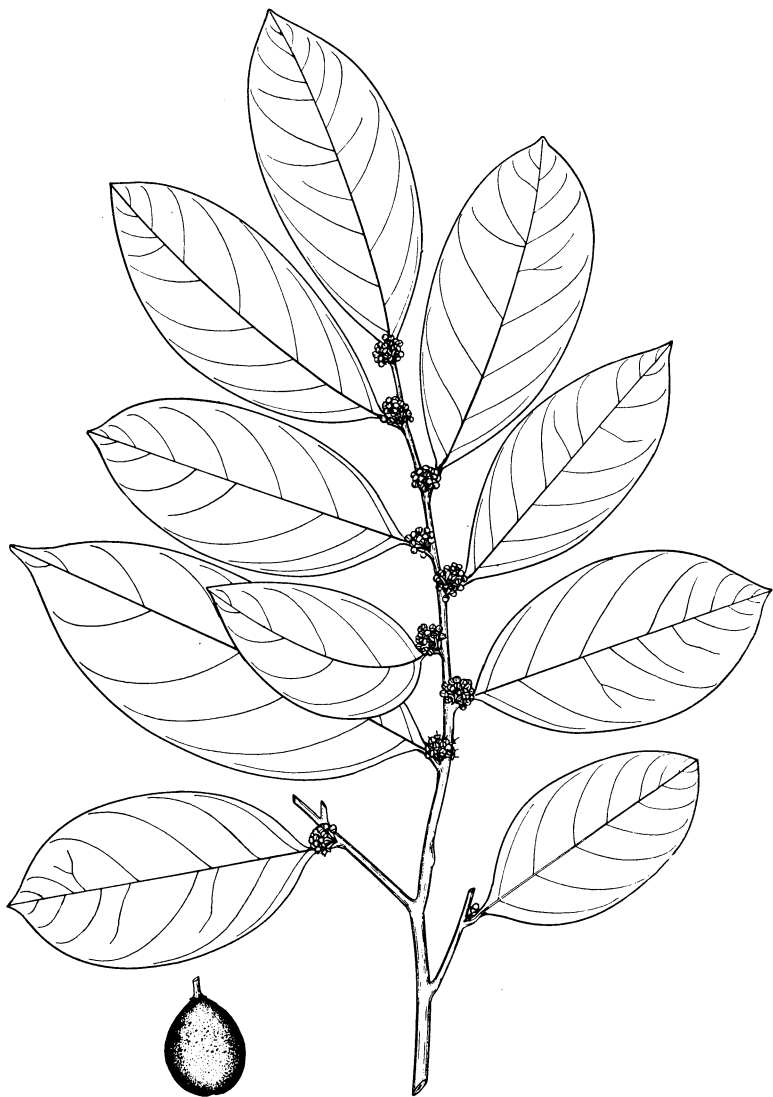


FIGURE 20. ANACOLOSA LUZONIENSIS (GALO). $\times \frac{1}{2}$.

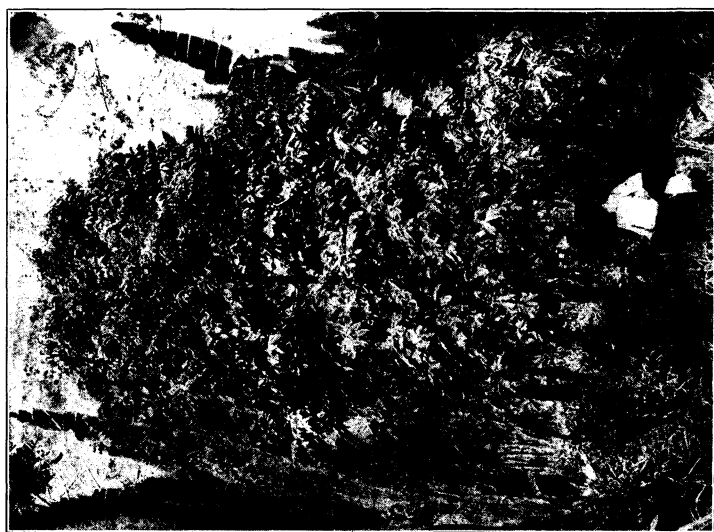


FIGURE 21 ANACOLOSA LUZONIENSIS (GALO).

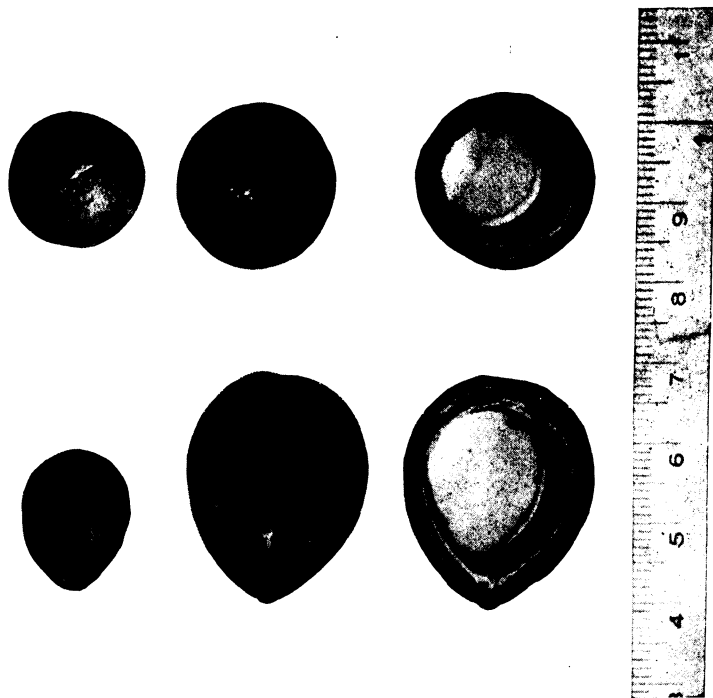


FIGURE 22. FRUIT OF ANACOLOSA LUZONIENSIS (GALO).

Anacolosa luzoniensis is a tree reaching a height of 15 meters or more, and a diameter of 50 centimeters. The leaves are alternate, and somewhat pointed at both ends. The flowers are small, yellow, and occur in small clusters.

This species has been reported only from Cagayan, Benguet, Nueva Vizcaya, Bataan, Cavite, Batangas, Mindoro, and Masbate. It is apparently rare and is never cultivated.

Genus XIMENIA

XIMENIA AMERICANA L. (Fig. 23).

Local names: *Bo-o* (Samal Island); *pangungan* (Basilan Island).

The fruits of this species taste like sour apples, and are eaten either fresh or pickled. The nuts are purgative. According to Heyne,* when cooked and powdered they are mixed with sago to make bread. The fruits are yellow, egg-shaped, and about 2 centimeters in diameter.

Ximenia americana is a spiny shrub about 3 meters in height. The leaves are alternate, elliptical, and about 5 centimeters in length. The flowers are less than a centimeter long, greenish white, and fragrant.

This species is distributed along the coast from Luzon to Mindanao and Palawan.

Family AMARANTHACEAE

Genus AMARANTHUS

AMARANTHUS VIRIDIS L. (Fig. 24).

KULÍTIS.

Local names: *Bauan* (Bontoc); *kulitis* (Tagalog); *kadiapá* (Agusan); *kalínai* (Camguin Island, Iloko, Pangasinan); *kilitis* (Bikol).

The leaves and young stems are boiled and eaten as a vegetable.

Amaranthus viridis is an erect, smooth, branched, unarmed annual, 30 to 60 centimeters in height. The leaves are broad at the base and narrow at the apex, which is usually notched. They are from 4 to 10 centimeters in length and have long petioles. The inflorescences occur in the axils of the leaves or at the ends of branches. The flowers are very small, densely crowded, green, and about 1 millimeter long. The seeds are small, and brown or black.

This species is common in open waste places throughout the Philippines.

* Heyne, K., *De Nuttige Planten van Nederlandsch-Indië*, Volume 2, page 92.

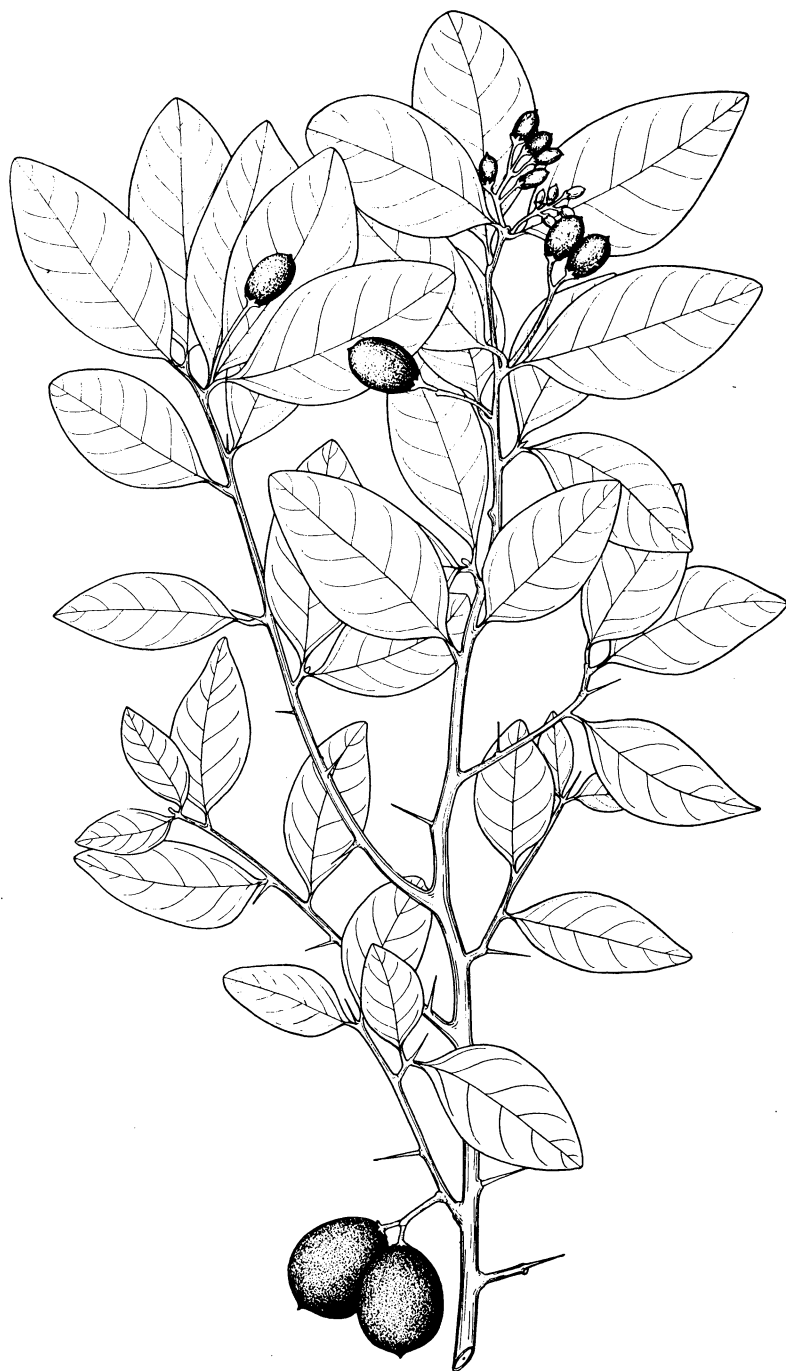


FIGURE 23. *XIMENIA AMERICANA*. $\times 8$.

Family AIZOACEAE

Genus *SESUVIUM**SESUVIUM PORTULACASTRUM* L.

DAMPALIT.

The stems and leaves when boiled are eaten as a vegetable.

Sesuvium portulacastrum is a fleshy, prostrate, spreading, branched herb. The stems root at the nodes, are often reddish, 20 to 50 centimeters in length, and have short, ascending branches. The leaves are narrow, very thick, fleshy, and 2 to 4 centimeters long. The flowers are small, and pink or red. The capsules are about 5 millimeters in length.

This species grows along the seashore throughout the Philippines.

Family PORTULACACEAE

Genus *PORTULACA**PORTULACA OLERACEA* L.

GULASÍMAN.

Local names: *Gulasíman*, *sahikan* (Tagalog, Mindoro); *olasíman* (Leyte); *ausíman*, *gulasíman*, *ulasíman* (Camarines).

This plant is eaten as a vegetable. It is also used in many regions as food for hogs.

Portulaca oleracea is an annual, prostrate or spreading, smooth, branched herb, 10 to 50 centimeters in length. The stems are often purplish. The leaves are fleshy, flat, wedge-shaped at the base, and 1.5 to 2.5 centimeters long. The flowers are yellow and occur in few-flowered heads.

This species is very common in waste places throughout the Philippines.

Genus *TRIANTHEMA**TRIANTHEMA PORTULACASTRUM* L.

Local name: *Ulisíman* (Negros Occidental).

This plant is eaten as a vegetable.

Trianthema portulacastrum is a prostrate, smooth or slightly hairy, succulent, branched herb. The branches are up to 60 centimeters or more in length. The leaves are opposite, rounded at the tip, wedge-shaped at the base, and 1 to 5 centimeters long. The flowers are pink and 4 to 5 millimeters in length. The capsule is 5 to 6 millimeters long and contains about 10 small seeds.

This species is a common weed in and about towns, especially in recently disturbed soil.



FIGURE 24. *AMARANTHUS VIRIDIS* (KULITIS). NATURAL SIZE.

Family BASELLACEAE

Genus **BASELLA****BASELLA RUBRA** L.

LIBÁTO.

Local names: *Libáto* (Tagalog); *alogbáti* (Bisaya); *arogbáti* (Bikol).

The leaves of this species make a very good substitute for spinach.

Basella rubra is a juicy, branched, smooth, twining, herbaceous vine which reaches a length of about 10 meters. The stems are green or purplish. The leaves are somewhat fleshy, pointed at the tip, and 5 to 12 centimeters long. The flowers are pink, about 4 millimeters long, and are borne on spikes which grow in the axils of the leaves and are 5 to 20 centimeters long. The fruit is 5 to 6 millimeters long.

This species is found throughout the Philippines in waste places.

Family NYMPHAEACEAE

Genus **NELUMBium****NELUMBium NELUMBO** Druce.

BÁINO or LOTUS.

Local names: *Báino'* (Tagalog); *béno'* (Laguna); *linga-ling* (Cagayan); *sana* (Cotabato).

The large seeds are contained in a cone-shaped structure, and when nearly mature are eaten either raw or roasted.

According to Crevost and Lemarié,* in Indo-China, the roots of this species are commonly sliced and eaten raw with meats.

Nelumbium nelumbo is a perennial, aquatic herb with large, rounded leaves and large, attractive, pink, red, or white flowers, which stand out of the water.

This species has been reported from Cagayan, Laguna, Albay, Camarines, Mindoro, Cotabato, and Davao. It is very common in some parts of Laguna de Bay. The flowers are sold in Manila.

Genus **NYMPHAEA****NYMPHAEA PUBESCENS** Willd.

PULÁU.

Local names: *Láuas*, *puláu* (Laguna).

The fleshy rhizomes of this plant are eaten as a vegetable. The seeds are also used as food.

Nymphaea pubescens is a perennial, aquatic herb about 1.5 meters in height. The leaves arise from the base of the plant

* Cat. Prod. de l'Indo-Chine, page 174.



FIGURE 25. CYATHOCALYX GLOBOSUS (DALINAS). $\times 1$.

and are very large and prominently toothed. The flowers are very large. The petals are white, tinged with pink or yellow.

This species is widely distributed in the Philippines, being very abundant in some lakes.

Family ANNONACEAE

Genus CYATHOCALYX

CYATHOCALYX GLOBOSUS Merr. (Fig. 25).

DALÍNAS.

Local names: *Alínau* (Ilocos Norte); *baniakáu* (Ilocos Sur); *bohókan* (Catanduanes); *dalínas* (Bataan); *damarau* (Negros); *ilang-ilang-gúbat* (Tayabas); *kutipi* (Union); *lanútan* (Bataan, Tayabas); *latauán* (Bataan); *malatapái* (Negros); *tapúlau* (Rizal).

The seeds of this tree are used by the Negritos as a substitute for areca nuts for chewing.

Cyathocalyx globosus is a tree reaching a height of about 30 meters and a diameter of about 40 centimeters. The fruits are somewhat rounded, and about 4 centimeters in length. The leaves are smooth, pointed at the apex, and rounded or somewhat pointed at the base.

Genus UVARIA

UVARIA PURPUREA Bl.

The fruits are aromatic and edible. They are borne in a cluster from a disk-shaped structure.

Uvaria purpurea is a woody vine. The leaves are alternate, hairy, pointed at the tip, somewhat rounded at the base, and 12 to 25 centimeters in length. The flowers are large and red.

This species is distributed from Luzon to Palawan, but is apparently rare.

UVARIA RUFA Blanco. (Fig. 26).

SÚSUNG-KALABÁU.

Local names: *Al-lágat* (Pangasinan); *hinlalágak* (Rizal); *iníu* (Zambales); *súsung-kalabáu* (Bataan, Rizal, Batangas); *súsung-damúlag* (Pampanga); *súsung-kabáyo* (Marinduque Island).

The fruit is edible, and has an agreeable flavor.

Uvaria rufa is a climbing shrub, the younger parts of which are densely hairy. The leaves are alternate, hairy, pointed at the tip, somewhat heart-shaped at the base, and from 8 to 16 centimeters in length. The fruits are borne in rounded clusters, are oval, hairy, red, and usually about 1.5 to 2 centimeters in diameter. The fruit contains two rows of flat, semi-circular seeds.

This species is distributed from central Luzon to southern Mindanao. It is cultivated only at the Lamao Experiment Station.

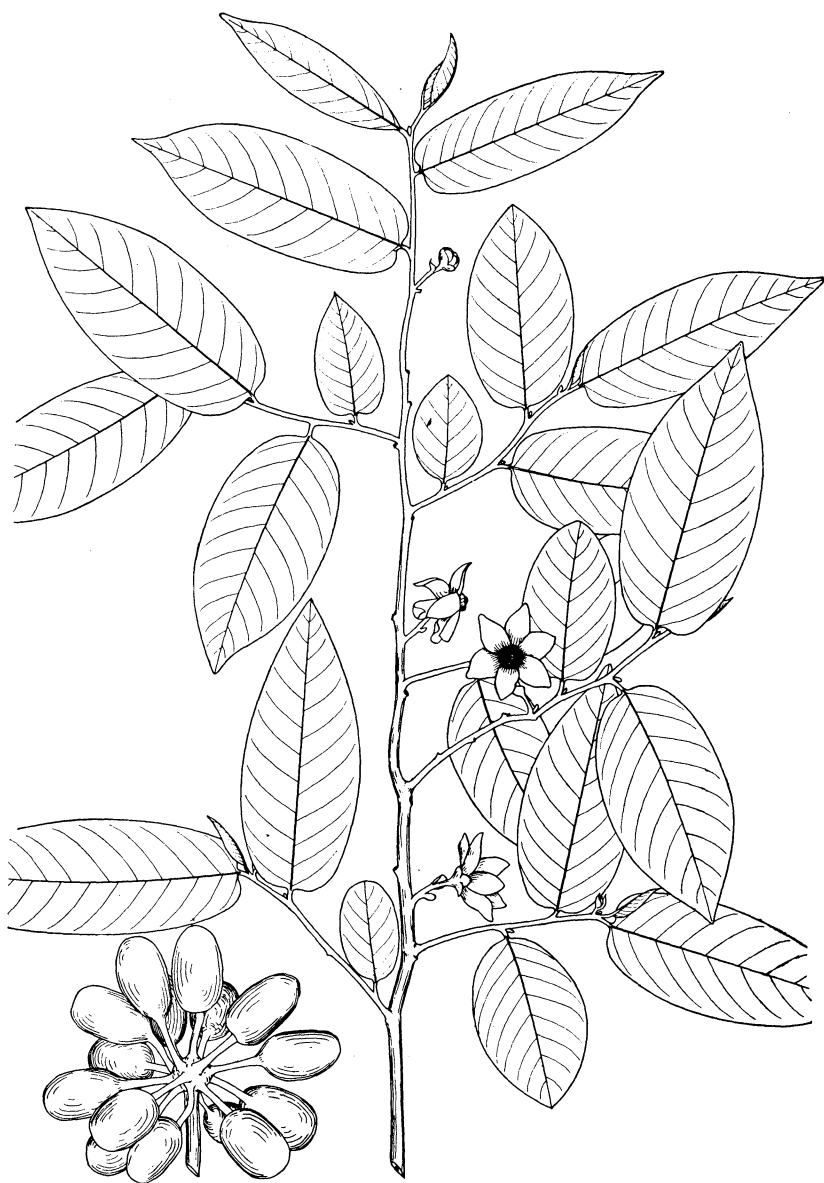


FIGURE 26. *UVARIA RUFA* (SUSUNG-KALABAU). $\times 8$.

UVARIA SORSOGONENSIS Presl.

Local names: *Alla-allágat*, *mamogen* (Cagayan); *balongságing* (Palawan); *baluganos* (Negros); *bulágak* (Camarines); *butóan-pulá* (Surigao); *hílalágat-ságing* (Rizal); *hínalágak-ságing* (Laguna, Rizal, Zambales); *malakakáo* (Zambales); *súsung-kalabáu* (Bataan, Palawan).

The fruits are aromatic and edible. They are oval, about 1.5 centimeters in length, and marked with prominent, transverse grooves.

Uvaria sorsogonensis is a large, woody vine with large leaves. The flowers are yellow, and about 3 centimeters in diameter. The fruits are borne in rounded clusters.

This species is common and widely distributed from northern Luzon to Basilan, but is not cultivated.

Family LAURACEAE

Genus CINNAMOMUM

CINNAMOMUM INERS Reinw.

CINNAMON.

A description and figure of this species and its local names are given in the bulletin on resins, gums and oils.

The bark of this tree is used locally as a substitute for cinnamon, to which it is inferior.

CINNAMOMUM MINDANAENSE Elm.

MINDANAO CINNAMON.

A description and figure of this species and its local names are given in the bulletin on resins, gums, and oils.

The bark is sold in commerce as cinnamon, and is the best cinnamon bark produced in the Philippines by a wild species.

Family CAPPARIDACEAE

Genus CAPPARIS

CAPPARIS HORRIDA L.

HALUBÁGAT-BÁGING.

Local names: *Baralauik* (Cagayan); *dáuag* (Bataan, Rizal); *habáгат-báging*, *halubáгат-báging* (Rizal); *tarabtáb*, *tarabtáb-uák* (Union).

The fruits are rounded, about 3 centimeters in diameter, with an edible pulp which has a poor flavor.

Capparis horrida is a thorny, woody vine. The leaves are alternate, hairy, pointed at the tip, rounded or somewhat pointed at the base, and from 6 to 12 centimeters in length. The flowers are fairly large, and white turning to pink.

This species has been reported only from Luzon and neighboring islands, and Zamboanga.

CAPPARIS MICRACANTHA DC.

HALUBÁGAT-KÁHOI.

Local names: *Balítuk* (Bukidnon); *bayábas-uák* (Bataan); *dáuag*, *halubáгат-káhoi* (Rizal); *halubáгат* (Nueva Ecija); *kasuit* (Pampanga); *ma-*



FIGURE 27. MORINGA OLEIFERA (MALUNGGAJ). $\times \frac{1}{2}$.

ladáyap (Tayabas); *salua-suá*, (Laguna); *tarabtáb* (Pangasinan), Ilocos Sur, Union); *tarabtáb-uak*, *taraptáp* (Union); *tiníkan* (Bataan).

The pulp of the fruit of this species is edible. The fruit is ovoid or globose, and about 5 centimeters in diameter.

Capparis micracantha is a vine or a half-erect shrub with drooping branches. It is 2 to 4 meters high, with short, sharp, nearly straight spines at the bases of the petioles. The leaves are alternate, somewhat elliptical in shape, leathery, shiny; the apex rounded, slightly pointed or notched; the base usually rounded. The flowers occur on the stem above the axils of the leaves. The petals are about a centimeter long, and white, the lower ones yellowish or reddish.

This species is common and widely distributed from northern Luzon to southern Mindanao.

Family MORINGACEAE

Genus MORINGA

MORINGA OLEIFERA Lam. (Fig. 27).

MALUNGGAÍ.

A description of this species and its local names are given in the bulletin on resins, gums, and oils.

The root of this species has a taste like that of horse-radish and is eaten in India by Europeans as a substitute for horse-radish. The wood has a similar taste.

The leaves and flowers of this tree are cooked and eaten as a vegetable. According to Heyne,* the half-ripe fruits are also used as a vegetable.

Family ROSACEAE

Genus RUBUS

The species of this genus which are found in the Philippines are characterized by the English name raspberry. The fruits of some of them are of very good flavor, while others are insipid.

RUBUS COPELANDII Merr.

The berries are nearly 2 centimeters in diameter, orange red, fairly juicy, and edible, but not well flavored.

Rubus copelandii is a scrambling shrub which may exceed 3 meters in height, but is usually smaller. The leaves and stems are armed with very numerous, medium-sized spines. The leaves are either simple or compound with 2 to 3 leaflets, which have toothed margins and are pointed at the tip and rounded at the base. The flowers are white and occur singly or in clusters.

* Heyne, K., *De Nuttige Planten van Nederlandsch-Indië*, Volume 2, page 187.

This species has been reported only from Benguet. It is not cultivated.

RUBUS ELLIPTICUS Sm.

TITAU.

The berries are pale yellow, fleshy, and of fairly good flavor.

Rubus ellipticus is a scrambling shrub reaching a height of 3 meters. The stems and petioles are densely covered with long, stiff hairs and armed with rather large spines. The leaves are usually compound with three leaflets which are somewhat rounded or elliptical and frequently flattened at the apex. The lower surfaces are velvety. The flowers are white, and borne in large clusters.

This species is reported only from Bontoc and Benguet. It is not cultivated.

RUBUS ELMERI Focke.

BUNUT.

The berry is up to 1.5 centimeters in breadth, orange yellow, and well flavored.

Rubus elmeri is a scrambling shrub reaching a height of about 2 meters. This species is armed with a few small spines. The young stems, flower buds, petioles, and lower surfaces of the leaves are velvety. The leaves have toothed margins, are heart-shaped, and vary from being entire to three- to five-lobed. The flowers are white and are either solitary or borne in clusters.

This species is reported only from the Mountain Province of Luzon, where it is common but not cultivated.

RUBUS FRAXINIFOLIUS Poir.

PALANAU.

Local names: *Barini* (Apayao); *lagukanata* (Lanao); *luting*, *palanau*, *balaungan* (Benguet); *pinit* (Bontoc); *pupugan* (Lepanto); *sampinit* (Suligao); *sapinit* (Tayabas, Bukidnon); *tugas-tugas* (Negros).

The berries are borne in clusters; they are 10 to 15 millimeters in diameter, bright red, fairly juicy, edible, but rather tasteless.

Rubus fraxinifolius is a scrambling shrub reaching a height of from 2 to 4 meters. The stems and leaves are armed with fair-sized, sharp spines. The leaves are pinnate, with three to eleven leaflets, which have toothed margins, are sharply pointed at the tip, and usually somewhat oblique at the base. The flowers are white, and about 2 centimeters in diameter.

This species is very common in the mountains from Luzon to Mindanao. It is not in cultivation.

RUBUS MOLUCCANUS L.

KINUBOT.

The berries are about a centimeter in diameter, red, and edible, but with an insipid flavor.

Rubus moluccanus is a scrambling shrub reaching a height of 2 to 3 meters. The stems and leaves are armed with medium-sized spines. The stems, buds, petioles, and the lower surfaces of the leaves are velvety. The upper surfaces of the leaves are somewhat hairy. The leaves are rather large, and usually somewhat three- to five-lobed. The flowers are about 2 centimeters in diameter, white, and usually borne in clusters.

This species is found in the mountains, from Bontoc to the southern limits of the Archipelago. It is not cultivated.

RUBUS NIVEUS Thumb.

PILAI.

The fruits occur in terminal clusters, are about a centimeter in diameter, and have a good flavor.

Rubus niveus is a very spiny, scrambling shrub which may reach a height of 3 meters, but is usually less than a meter in height. The leaves are compound with five to nine leaflets which are usually less than 3 centimeters in length. The margins of the leaflets are prominently toothed; the lower surfaces have a whitish appearance.

This species is reported only from Bontoc and Benguet. It is not cultivated.

RUBUS PECTINELLUS Max. (Fig. 28).

ATIBULNÁK.

The fruits are 1.5 centimeters in diameter, bright red, juicy, subacid, and of good quality and flavor. This is considered to be one of the choicest species of the genus in the Philippines.

Rubus pectinellus is a trailing plant with heart-shaped leaves. The stems, leaves, and calyx are armed with small spines. The leaves are very rough, hairy, heart-shaped, have toothed margins, and are usually from 3 to 6 centimeters in diameter. The flowers are white, and upwards of 2 centimeters in diameter.

This species has been reported only from Abra, Lepanto, Bontoc, Benguet, Laguna, Tayabas and Davao. It is not cultivated.

RUBUS ROLFEI Vid.

The berries are yellowish, fleshy, and well flavored.

Rubus rolfei is a scrambling shrub 2 to 3 meters in height. The stems and lower surfaces of the leaves are covered with fine, soft hairs, while the stem and the larger veins of the leaves are armed with small spines. The leaves are very rough, three- to five-lobed, up to 12 centimeters in length, dark green above, brownish beneath, and have toothed margins. The flowers are white, about 3 centimeters in diameter, and are usually borne in groups.

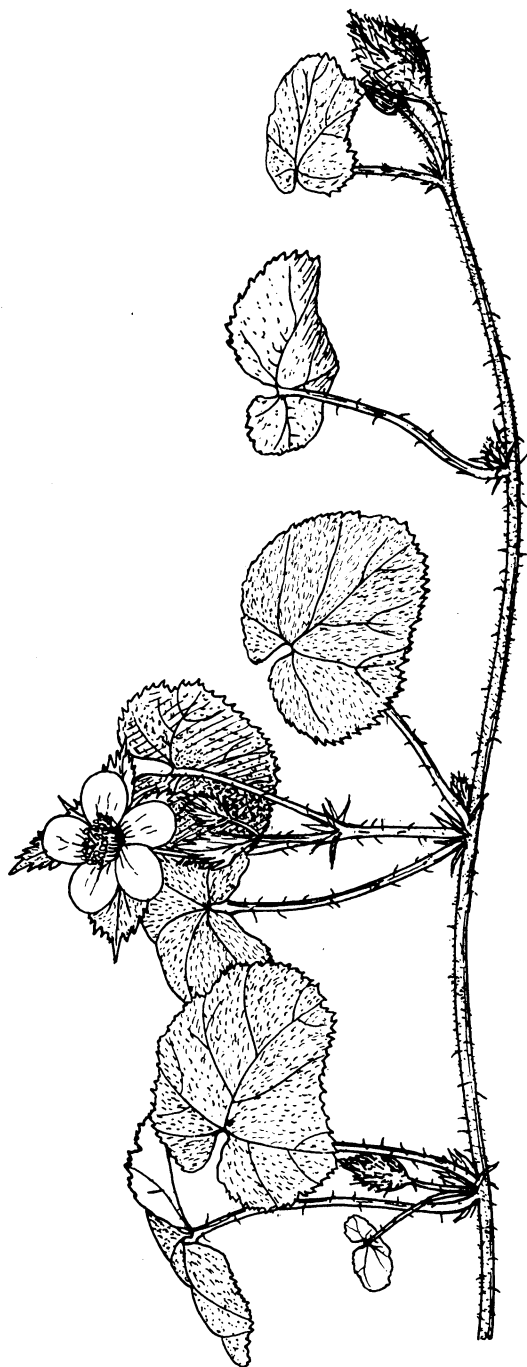


FIGURE 28. RUBUS PECTINELLUS (ATIBULNAK). NATURAL SIZE.

This species is very common in the mountains of Benguet, Laguna, and Negros Occidental. It is not cultivated.

RUBUS ROSAEFOLIUS Sm.

INfr.

Local names: *Init* (Bontoc); *lagiauat* (Bukidnon); *ragini* (Albay); *sapinit* (Laguna).

The fruits are red, about 1.5 centimeters in diameter, and occur singly or in clusters. They are juicy, but rather insipid.

According to Heyne * the leaves are somewhat astringent, and are eaten both raw and cooked.

Rubus rosaefolius is a spiny shrub rarely exceeding a meter in height. The leaves are pinnate with three to seven leaflets. The leaflets are smooth or hairy, have lobed margins, and are from 2 to 7 centimeters in length. The flowers are white.

This plant is common in the mountains of Luzon, the Bisaya Islands, and Mindanao. It is not cultivated.

Family LEGUMINOSAE

Genus ALBIZZIA

ALBIZZIA LEBBEKOIDES (DC.) Benth. (Fig. 29).

KARISKÍS.

Local names: *Kariskis* (Pangasinan, Ilocos Norte, Union, Abra, Zambales, Nueva Ecija); *maganhóp sa búkid* (Sibuyan); *malagánit* (Nueva Ecija, Rizal); *malaghánip* (Rizal); *malaghánit* (Laguna); *malasampálok* (Bataan).

The bark is frequently used in the manufacture of a fermented drink known as basi. For a discussion of this use, see *Macaranga tanarius*.

Albizzia lebbekoides is a tree reaching a height of about 12 meters and a diameter of about 30 centimeters. The leaves are twice pinnate, with narrow leaflets which are about a centimeter in length. The flowers are small, greenish yellow, and occur in rounded clusters on compound inflorescences. The fruit is a thin pod, about 12 centimeters long and 2 centimeters wide.

This species is very common and distributed from northern Luzon to southern Mindanao.

Genus BAUHINIA

BAUHINIA MALABARICA Roxb. (Fig. 30).

ALIBANGBÁNG.

Local names: *Albangbáng* (Tarlac); *alibáng* (Rizal); *alibangbáng* (Nueva Ecija, Pampanga, Rizal, Cavite, Laguna); *kalibambáng* (Pampanga, Laguna).

* Heyne, K., *De Nuttige Planten van Nederlandsch-Indië*, Volume 2, page 199.

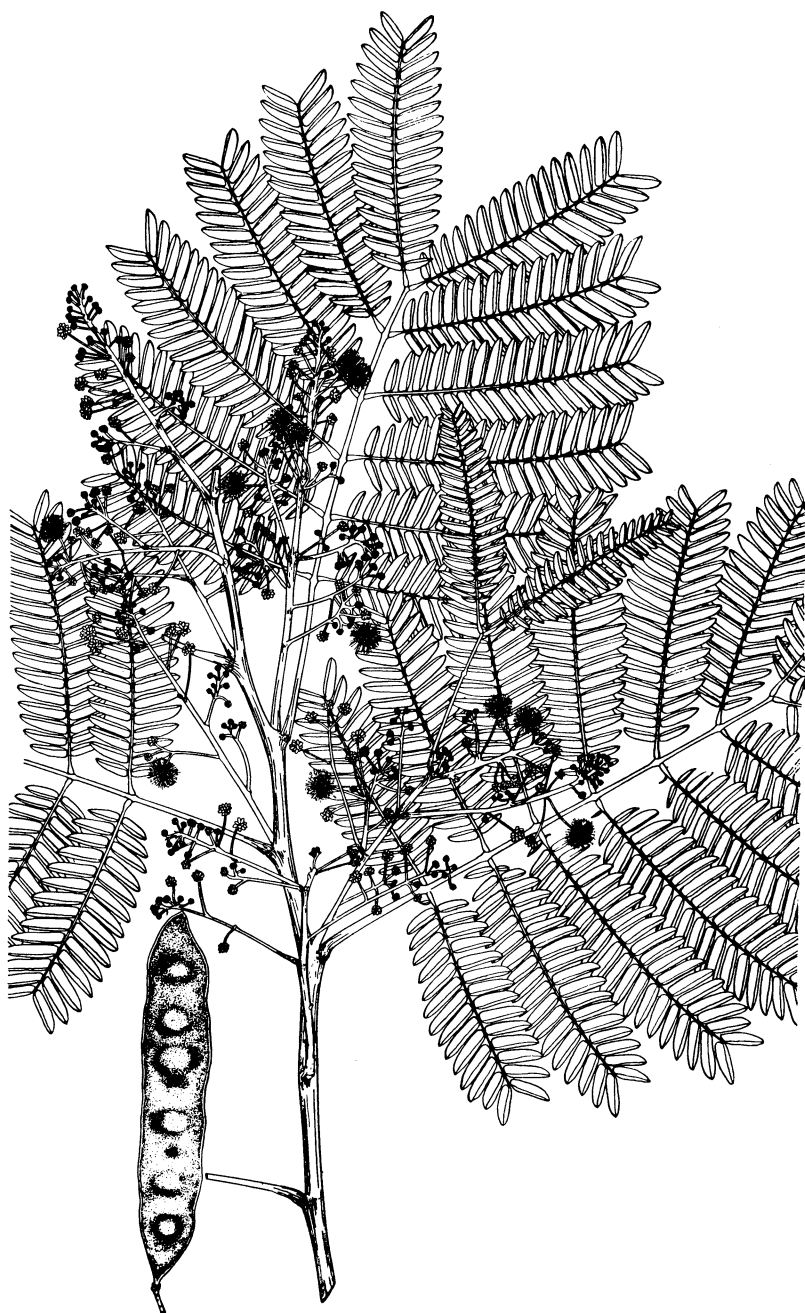


FIGURE 29. *ALBIZZIA LEBBEKOIDES* (KARISKIS). $\times \frac{1}{2}$.

The leaves of this species are sour, and are used considerably by the Filipinos for flavoring meats and fish.

Bauhinia malabarica is a small tree reaching a height of about 8 to 10 meters. The leaves are alternate, heart-shaped at the base, deeply notched at the apex, 5 to 10 centimeters long, and usually wider than long. The flowers are white and rather large. The pods are long, narrow, and flattened.

This species is common in open places and second-growth forests in the Philippines, and is particularly abundant in the early stages of the invasion of grassland by second-growth forests.

Genus *LEUCAENA*

LEUCAENA GLAUCA (L.) Benth. (Fig. 31).

IPIL-ÍPIL.

Local names: *Aghó* (Iloilo); *ciprés* (S. Tayabas); *dátiles* or *biátiles* (Cebu); *ipil* (Rizal, Manila, Cavite, Nueva Ecija, Pampanga, Pangasinan); *ipil-ipil* (Laguna); *Jerusalém* (Batangas); *kabahéro* or *kabaero* (Cebu); *kariskis* (Ilocos Sur); *komkompitis* (Ilocos Sur, Pangasinan); *loiloí* (Leyte); *malagánit* (Nueva Ecija); *palomaria* (Camarines); *San Pedro* (Capiz); *Santa Elena* (Pangasinan, Launa, Rizal, Batangas, Tayabas).

In some provinces the seeds of this species are roasted and ground, and then used as a substitute for coffee. These seeds have been analyzed by Brill.*

The Bureau of Forestry has found ipil-ipil to be a very valuable firewood crop, and also exceedingly useful in reforestation work. It has been planted with great success in grass areas as a nurse crop for forest trees.†

Leucaena glauca is a shrub or small tree 2 to 6 meters high. The leaves are 15 to 25 centimeters long and compound with numerous leaflets which are narrow and 7 to 12 millimeters in length. The flowers are white, and occur in dense, solitary, rounded heads which are 2 to 5 centimeters in diameter. The pods are thin, flat, 12 to 18 centimeters long, 1.4 to 2 centimeters wide, and contain from 15 to 25 elliptical, shiny, brown seeds.

This species is a native of tropical America, but is now found throughout the tropics. It is thoroughly naturalized in the Philippines and very common and widely distributed.

* Brill, H. C., Ipil, a coffee substitute: *Leucaena glauca* (Linnaeus) Benth. Philippine Journal of Science, Volume 11 (1916), pages 101 to 104.

† Matthews, D. M., Ipil-ipil—A firewood and reforestation crop. Bureau of Forestry Bulletin No. 13 (1914).

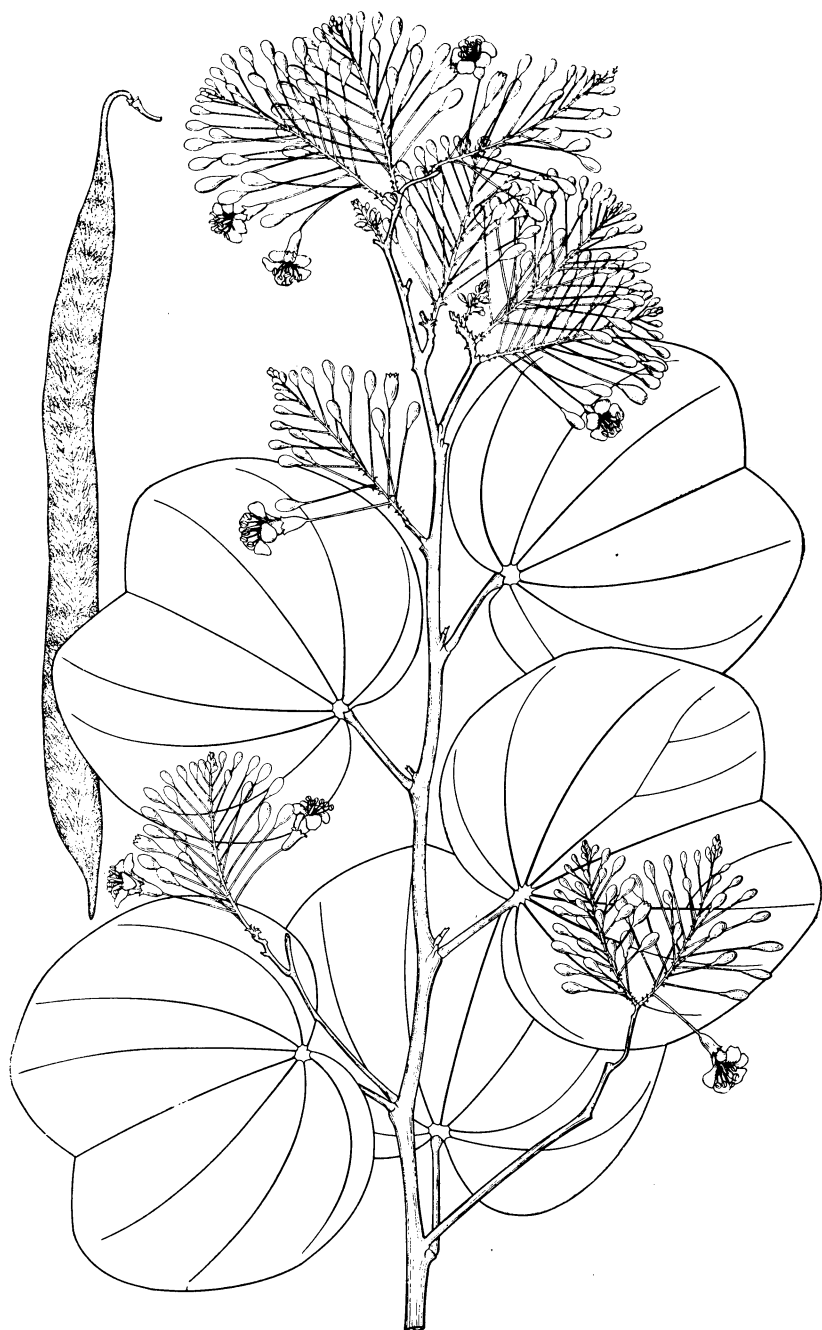


FIGURE 30. BAUHINIA MALABARICA (ALIBANGBANG). $\times 1$.

Genus **PACHYRRHIZUS****PACHYRRHIZUS EROSUS** (L.) Urb.

SINGKAMÁS.

A description of this species and its local names are given in the bulletin on resins, gums, and oils.

The roots are large, fleshy, and turnip-shaped. They are eaten either raw or prepared in a variety of ways. The fruit is sometimes used as a vegetable.

Genus **PHASEOLUS****PHASEOLUS LUNATUS** L.

LIMA BEAN OR PATÁNI.

Local names: *Bulai patáni* (Manila vicinity); *katakut* (Bontoc); *parda* (Ilocos Norte); *patáni* (Ilocos Norte, Bontoc, Pampanga, Rizal, Batangas, Camarines).

A form of the ordinary patani or lima bean with dark-colored seeds is common in thickets in some parts of the Philippines. The seeds are sometimes edible, but may be poisonous, deaths having occurred from eating them.

Phaseolus lunatus is a slender, smooth, annual, herbaceous vine reaching a length of 4 meters or more. The leaves are somewhat rounded at the base and pointed at the tip. The flowers are greenish or pale yellow, and borne on long stalks. The pods are oblong, somewhat curved, 6 to 12 centimeters long, about 2 centimeters wide, and contain 1 to 4 large seeds.

Genus **PITHECOLOBIUM****PITHECOLOBIUM DULCE** (Roxb.) Benth. (Fig. 32).

KAMACHÍLE.

Local names: *Damortís* (Bontoc, Union, Pangasinan); *kamachíle* (Manila, Camarines); *kamanchíle* (Nueva Ecija, Bataan, Manila, Tayabas); *komontres* (Abra).

The pods are often twisted spirally, red when ripe, 10 to 18 centimeters long, and about a centimeter wide. They contain six to eight seeds surrounded by whitish, sweet, edible pulp of good flavor.

Large quantities of the bark of this species are gathered for tanning purposes.

Pithecolobium dulce is a tree 5 to 8 meters in height. The branches are armed with short, sharp spines found at the bases of the leaves. The leaves are twice compound with four leaflets, which are 1 to 4 centimeters in length. The flowers are white, and in dense heads which are about a centimeter in diameter.

This species is a native of tropical America, but is now thor-

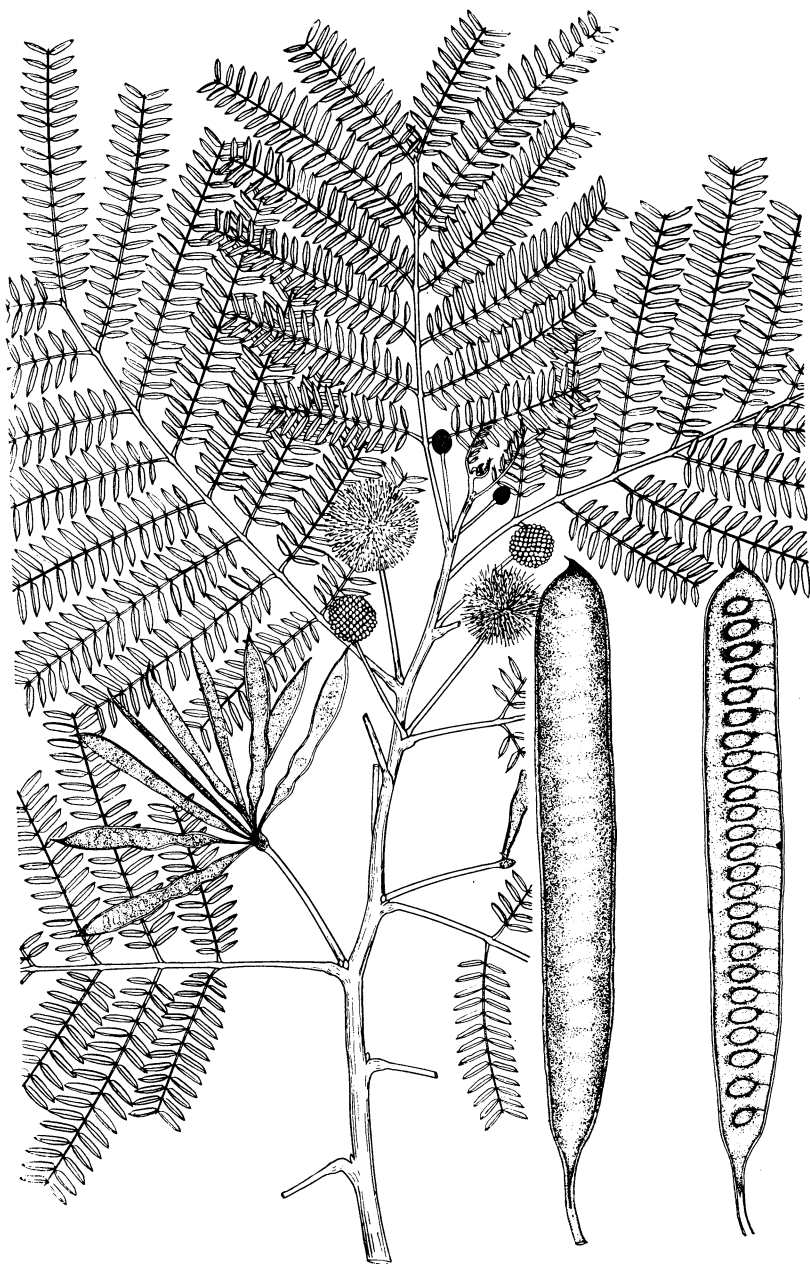


FIGURE 31. *LEUCAENA GLAUCA* (IPIL-IPIL). $\times \frac{1}{2}$.

oughly naturalized in the Philippines. It is common and widely distributed.

Genus **SESBANIA**

SESBANIA GRANDIFLORA Benth.

KATÚRAI.

A description of this species and its local names are given in the bulletin on resins, gums, and oils.

The flowers are cooked as a vegetable. The young fruits are eaten in the same manner as are string beans.

Genus **TAMARINDUS**

TAMARINDUS INDICA L. (Fig. 33).

SAMPÁLOK.

Local names: *Salomági* (Cagayan, Ilocos Norte); *sambág*, *sanbág* (Iloilo, Guimaras Island); *salumági* (Abra); *sampálok* (Union, Pangasinan, Tarlac, Pampanga, Zambales, Bulacan, Manila, Rizal, Laguna, Tayabas, Camarines).

The pods are 6 to 15 centimeters long, 2 to 3 centimeters wide, and constricted between the seeds, which are surrounded by an acid pulp of good flavor. The young leaves are boiled as a flavoring with meat.

Tamarindus indica is a large tree from 12 to 25 meters in height. The leaves are 6 to 10 centimeters long, unevenly pinnate with 20 to 40 leaflets which are 1 to 2 centimeters long. The petals are yellowish with pink stripes, and less than a centimeter in length.

This species is probably a native of tropical Africa, but is now cultivated in all tropical countries. It is grown extensively in the Philippines for its fruit and as a shade tree, but also occurs spontaneously. It is apparently more abundant in Luzon than in the Bisaya Islands or Mindanao.

Family **OXALIDACEAE**

Genus **AVERRHOA**

AVERRHOA BILIMBI L. (Fig. 34).

KAMIÁS.

Local names: *Iba* (Camarines, Mindoro, Masbate, Iloilo, Negros, Davao, Basilan); *kalamiás* (Mindoro); *kolonanas* (Tayabas); *kamiás* (Nueva Ecija, Bataan, Manila, Rizal, Laguna); *puis* (Amburayan subprovince).

The fruit is somewhat cylindrical or with five obscure, broad, rounded, longitudinal lobes. It is about 4 centimeters long, green, acid, and edible.

Averrhoa bilimbi is a small tree 5 to 12 meters high. The leaves are pinnate, and from 20 to 60 centimeters in length. The leaflets are opposite, with 10 to 17 pairs, pointed at the tip, rather narrow, and 5 to 10 centimeters long. The flowering branches grow from the trunk and larger branches. They are hairy and 15 centimeters or less in length. The flowers are



FIGURE 32. PITHECOLOBIUM DULCE (KAMACHILE). $\times \frac{1}{2}$.

fragrant and about 1.5 centimeters long. The corolla is purple, often marked with white.

This species is common and widely distributed from northern Luzon to the Sulu Archipelago. It is frequently cultivated.

AVERRHOA CARAMBOLA L. (Fig. 35).

BALIMBING.

Local names: *Balimbing* (Nueva Ecija, Rizal, Tarlac, Manila, Laguna, Pampanga, Bulacan, Bataan, Camarines); *daligan* (Lepanto); *dalihan* (Cagayan); *garulan*, *galluran* (Cagayan); *sirináte* (Abra).

The fruit is fleshy, acid, green or greenish-yellow, usually about 6 centimeters long, with five (very rarely six), longitudinal, angular lobes, and is edible.

Averrhoa carambola is a shrub or small tree reaching a height of about 6 meters. The leaves are pinnate and about 15 centimeters long. There are usually about 5 pairs of leaflets which are opposite, smooth, pointed at the tip, the upper one about 5 centimeters long and the lower ones smaller. The flowering branches are small, occur in the axils of the leaves, and are usually about 3 centimeters long. The flowers are 5 to 6 millimeters in length, and purple, the petals often having a white margin.

This species is a native of tropical America, but is common and widely distributed in the Philippines. It is usually cultivated.

Genus **OXALIS**

OXALIS REPENS Thunb.

Local names: *Marasiksik* (Union); *pichik* (Batanes); *susokoyili*, *taí-ñgang-dagá* (Tagalog).

This species is eaten as an ingredient of salads.

Oxalis repens is a small, prostrate herb. The stems are creeping, up to 50 centimeters in length, usually root at the nodes, and have long, scattered hairs. The leaves are trifoliate. The petioles are 5 centimeters long, and the leaflets are 0.5 to 1.5 centimeters in length. The flowers are yellow, 1 to 3 on each stalk, and nearly a centimeter in length. The fruit is a hairy, somewhat cylindrical capsule 1 to 1.8 centimeters in length.

This species is widely distributed in the Philippines in waste places.

Family **RUTACEAE**

Genus **CITRUS**

CITRUS HYSTRIX DC.

KABÚYAU.

A description and figure of this species and its local names are given in the bulletin on resins, gums, and oils.

The fruits are about 8 centimeters in diameter and very sour.

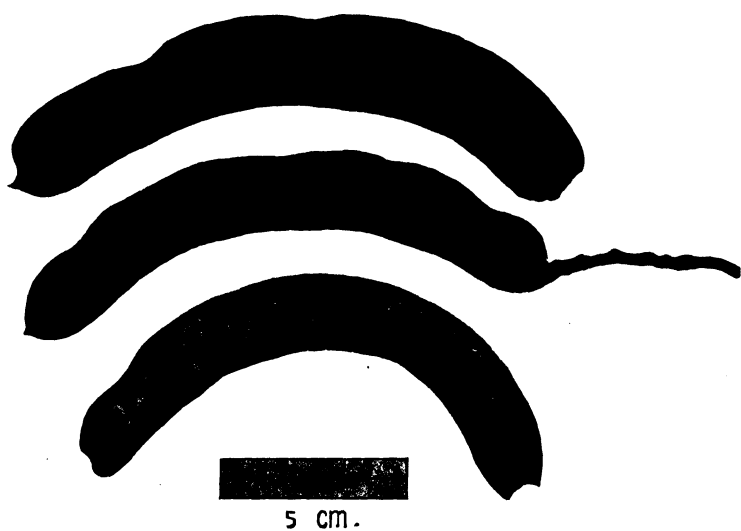
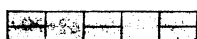
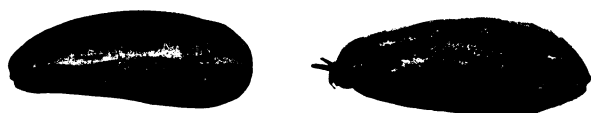
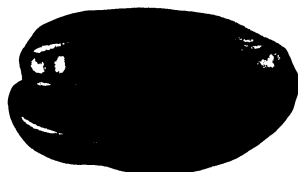
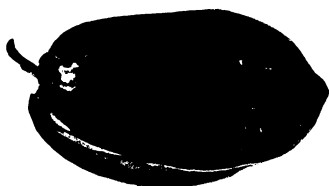


FIGURE 33. TAMARINDUS INDICA (SAMPALOK).



5 cm.

FIGURE 34. *AVERRHOA BILIMBI* (KAMIAS).

5 cm.

FIGURE 35. *AVERRHOA CARAMBOLA* (BALIMBING)



FIGURE 36. TODDALIA ASIATICA. $\times \frac{20}{1}$

Genus **TODDALIA****TODDALIA ASIATICA** (L.) Kurz. (Fig. 36).

A description of this species and its local names are given in the bulletin on resins, gums, and oils.

In the Philippines the fruits are used to flavor many dishes, and also as a tonic for the stomach, and to prevent fevers. According to Heyne * all parts of the plant are used in the manner described above.

Genus **TRIPHASIA****TRIPHASIA TRIFOLIATA** (Burm.) P. Wils.

Local names: *Dáyap* (Bataan); *kalamansito* (Union); *kamalitos* (Laguna); *limoncito* † (Cagayan, Zambales, Bataan, Bulacan, Laguna, Camarines, Albay, Iloilo, Antique, Surigao, Lanao, Zamboanga); *limoncítong-kastila* (Camarines); *sua'-sua'* (Camarines); *tagimunanu* (Cagayan).

The fruits are ovoid, fleshy, red, and about 12 millimeters long. They are eaten either raw or cooked as a sweet.

Triphasia trifoliata is a shrub reaching a height of 3 to 7 meters. At the base of each leaf there are two sharp spines. The leaves are alternate with three leaflets which have slightly toothed margins. The flowers are white, fragrant, and about 1 centimeter long.

This species is widely distributed in the settled areas of the Philippines and is sometimes cultivated.

Family **BURSERACEAE**Genus **CANARIUM**

The genus *Canarium* contains several species having edible nuts. The most important of these is *Canarium ovatum*, which has a large nut known as *pili*.

CANARIUM LUZONICUM (Bl.) A. Gray.

PILI.

A description and figure of this species and its local names are given in the bulletin on resins, gums and oils.

This species is more valuable for the resin, Manila elemi, than for its nuts. The nut is similar to that of *Canarium ovatum*, but smaller.

CANARIUM OVATUM Engl.

PILI.

A description and figure of this species and its local names are given in the bulletin on resins, gums, and oils.

* Heyne, K., *De Nuttige Planten van Nederlandsch-Indië*, Volume 3, page 10.

† This name, a diminutive of Spanish *limón*, belongs rather to the limes (*Citrus mitis* Blanco, and perhaps other species of *Citrus*).

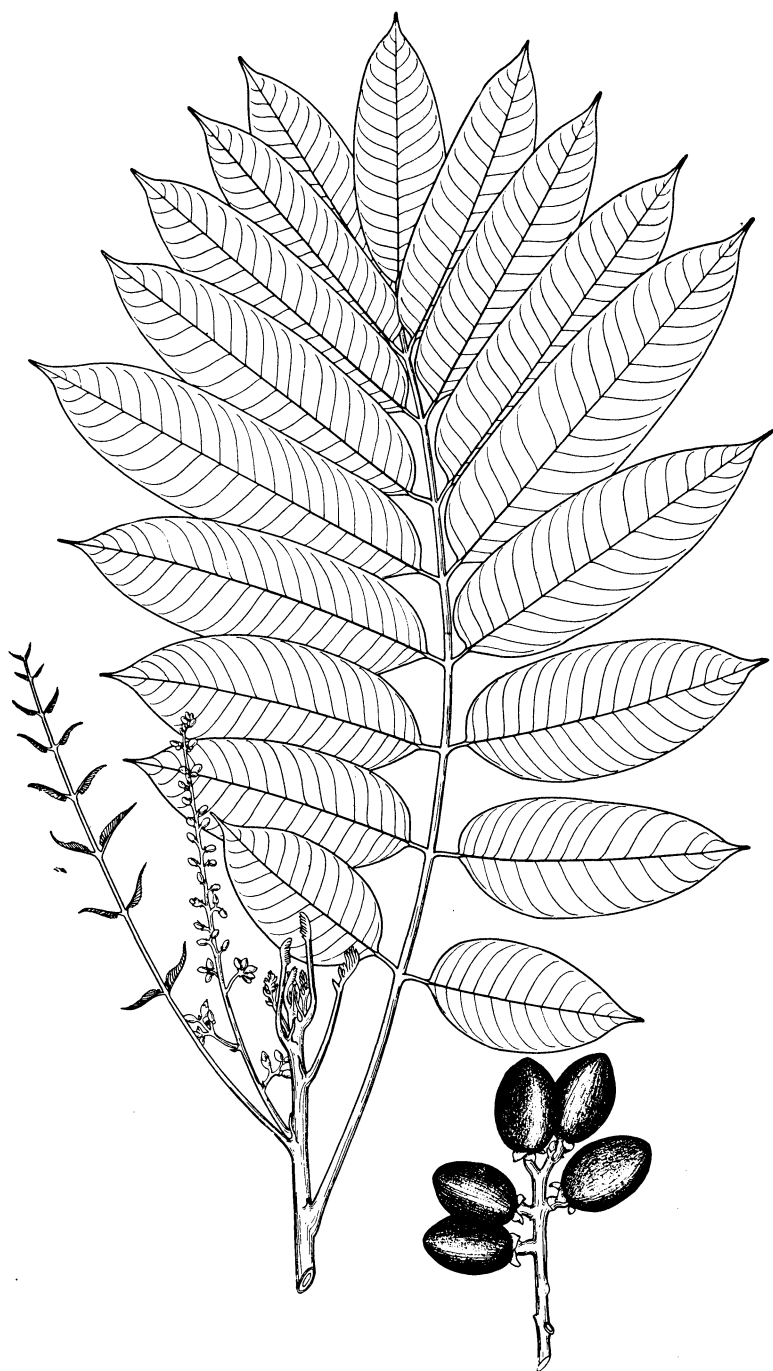


FIGURE 37. *CANARIUM WILLIAMSII* (GISAU). $\times \frac{1}{2}$.

The nut, after the outer covering is removed, is about 5 centimeters long, very hard, triangular, and pointed at both ends. It contains a large kernel very rich in oil which when roasted has a delicious flavor. This is served in the same manner as the almond, and by many is considered to be superior to the latter. The nuts are also used considerably in the making of confections. Uncooked they have a purgative effect. In 1913, 1,186,173 kilograms of pili nuts were exported from Manila.

CANARIUM WILLIAMSII C. B. Rob. (Fig. 37).

GISÁU.

Local name: *Gisau* (Mindanao).

This species produces a nut similar to the pili nut.

Canarium williamsii is a tree reaching a height of about 18 meters and a diameter of 20 centimeters. The leaves are pinnate, with opposite pinnae, and about 80 centimeters in length. The flower, which has three white petals, is about 7 millimeters long.

This species has been reported only from Mindanao and neighboring islands.

Family MELIACEAE

Genus AGLAIA

AGLAIA EVERETTII Merr. (Fig. 38).

BULÓG.

Local names: *Bagasantól* (Leyte); *bubúa* (Negros Occidental); *bubúnau* (Bisaya); *bulóg* (Tablas Island); *buñguás*, *malasantól* (Cebu); *lumbánau* (Surigao).

The fruits are oval, 4 or 5 centimeters in length or longer, red, and contain an edible pulp.

Aglaia everettii is a tree reaching a height of 20 meters and a diameter of 70 centimeters. The leaves are compound with rather large, smooth, usually opposite leaflets. The flowers are small, yellow, and borne on rather large, compound inflorescences.

This species is distributed from northern Luzon to southern Mindanao and is very common in the Visayan Islands. It is not in cultivation.

AGLAIA GLOMERATA Merr.

KARAMIRAS.

Local names: *Bulóg* (Negros); *karáiap* (Buikdnnon); *karamiras* (Mindoro); *kuling-manók* (Laguna); *kaniuing-puti*, *bayánti* (Rizal); *saplúnṅan*, *matamatá* (Basilan); *tibúnṅau* (Isabela).

The fruits are about 2 centimeters in diameter, red, velvety, fairly juicy, and edible, though lacking in flavor.

Aglaia glomerata is a tree reaching a height of 20 meters and

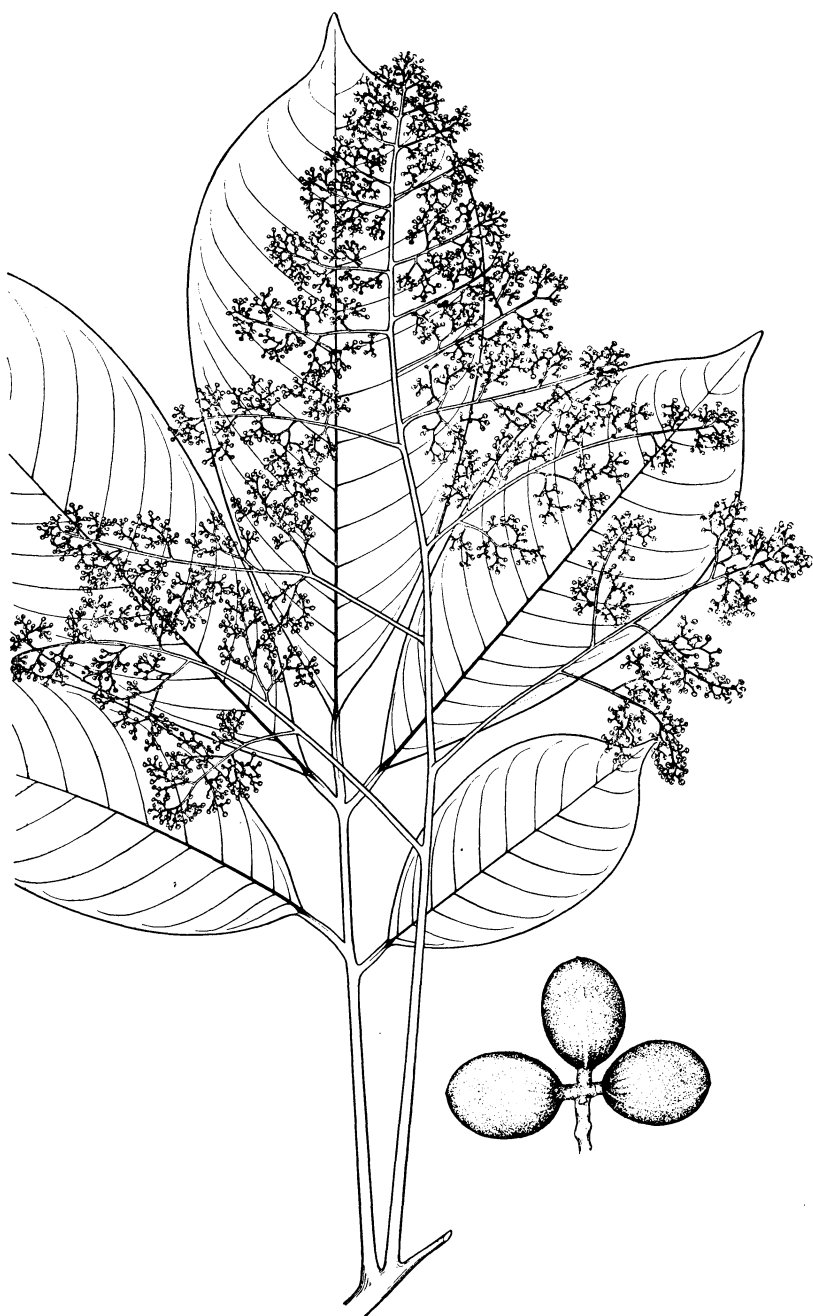


FIGURE 38. *AGLAIA EVERETTII* (BULOG). $\times \frac{1}{2}$.

a diameter of 40 centimeters. The leaves are compound with 5 to 7 leaflets which are hairy. The flowers are small, and borne on compound, axillary inflorescences.

This species is distributed from northern Luzon to southern Mindanao. It is not cultivated.

AGLAIA HARMSIANA Perk. (Fig. 39).

MALATUMBÁGA.

Local names: *Balinsiagáu* (Pangasinan); *bayánti* (Laguna, Batangas); *bayóg* (Guimaras Island); *daiamiras* (Mindoro); *hagáson* (Leyte); *kagatóngan*, *sulmin* (Rizal); *kamatamatá* (Lanao); *kaniui-putí* (Rizal, Laguna); *malaságíng* (Tayabas, Leyte); *malatumbága*, *matang-uláng* (Bataan); *mamonák*, *saplúngan* (Zamboanga); *matamatá* (Sorsogon); *odlíng* (Capiz); *palatánñan*, *sallapugud*, *batukanág* (Ilocos Sur); *pilipili* (Camarines); *salamúñgai* (Batangas); *tadiáng-kalabáu* (Laguna); *tañgíling-bañgóhan* (Bulacan); *tibúñgau*, *palatánñen* (Cagayan).

The fruits are about 2 to 2.5 centimeters in diameter, rounded, and red to russet colored. They have a hard outer covering, and contain a single seed. The pulp around the seed has a good flavor, somewhat resembling that of the cranberry.

Aglaia harmsiana is a tree reaching a height of about 25 meters and a diameter of about 50 centimeters. The leaves are alternate and compound, usually with five to seven pairs of leaflets. The leaflets are smooth, pointed at both ends, and from 6 to 20 centimeters in length. The flowers are small, yellow, and borne on rather large, compound inflorescences.

This species is common and widely distributed throughout the Philippines. It is not in cultivation.

Genus **LANSIUM**

LANSIUM DUBIUM Merr. (Fig. 40).

MAMATÁ-BABÁE.

Local names: *Bisik* (Zamboanga); *bubahan* (Negros Occidental); *mala-dáyap* (Tayabas); *mamatá-babáe* (Masbate); *tamañhan* (Ticao Island); *tul-ánan* (Samar); *uban-úban*, *malakanasi* (Camarines).

The fruits are about 2.5 centimeters in diameter, rounded, brownish yellow, and edible. They are surrounded by a hard outer covering, and contain a single seed.

Lansium dubium is a tree reaching a height of about 15 meters and a diameter of 25 centimeters. The leaves are opposite, smooth, pointed at both ends, and 6 to 15 centimeters in length. The flowers are small, yellow, and borne on slender spikes.

This species is distributed from central Luzon to southern Mindanao. It is not in cultivation.

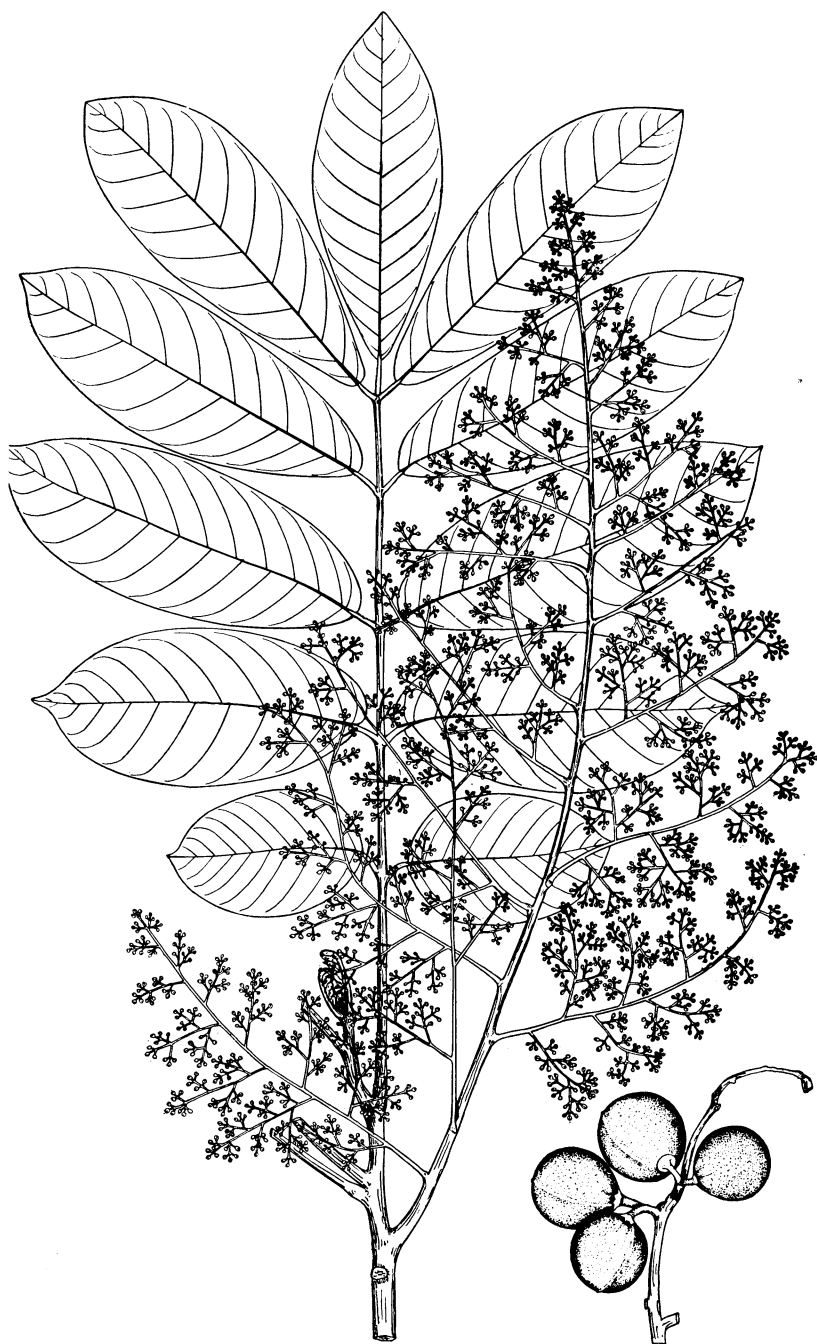


FIGURE 39. *AGLAIA HARMSIANA* (MALATUMBAGA). $\times \frac{1}{2}$.



FIGURE 40. *LANSIUM DUBIUM* (MAMATA-BABAE). $\times \frac{1}{3}$.



J.Vitan del.

FIGURE 41. SANDORICUM KOETJAPE (SANTOL).

Genus **SANDORICUM**

SANDORICUM KOETJAPE Merr. (*S. indicum* Cav.) (Fig. 41). **SANTÓL**.

Local names: *Santól* (Ilocos Norte and Sur, Abra, Lepanto, Zambales, Tarlac, Pampanga, Nueva Ecija, Bulacan, Bataan, Manila, Tayabas, Camarines, Albay, Sorsogon, Mindoro, Polillo, Leyte, Palawan, Basilan); *santor* (Zamboanga).

The fruit is rounded or somewhat flattened, 4 to 6 centimeters in diameter, and yellowish. The outer covering is very thick. The seeds are large, and surrounded by translucent or pale, acid, edible pulp of good flavor. Peeled, quartered and cooked in syrup, they make a delicious preserve.

Sandoricum koetjape is a tree reaching a height of about 25 meters and a diameter of about 80 centimeters. The leaves are alternate and trifoliate. The leaflets are hairy, somewhat elliptical in shape, pointed at the tip, rounded or slightly pointed at the base, and 10 to 25 centimeters long. The flowers are greenish yellow or straw colored, about 1 centimeter in length, and occur in considerable numbers on compound inflorescences.

This species is distributed from northern Luzon to southern Mindanao and is very common in Luzon. It is both cultivated and wild.

Family **EUPHORBIACEAE**Genus **ANTIDESMA**

ANTIDESMA BUNIUS Spreng. (Figs. 42, 43).

BIGNÁI.

Local names: *Bignái* (Zambales, Manila, Rizal, Laguna, Batangas); *bignái-kalabáu* (Manila vicinity); *bugnái* (Ilocos Sur, Abra, Cagayan, Union, Nueva Ecija, Camarines, Mindoro, Iloilo, Cebu); *bugnéi* (Bontoc); *bunnái* (Isabela); *isip* (Pampanga); *pagiruga* (Cagayan).

The fruit is ovoid, red, about 8 millimeters long, fleshy, acid, and edible. It contains a single seed.

Antidesma bunius is a small tree 4 to 10 meters in height. The leaves are small, shiny, somewhat oval in shape, pointed at the tip, rounded or pointed at the base, and 8 to 20 centimeters long. The flowers are small and green. The male flowers are borne on spikes and the female ones on racemes.

This species is common and widely distributed in open places and second-growth forests throughout the Philippines. It is rarely cultivated. It is one of the commonest trees in the first stages of the invasion of grassland by second-growth forests.



FIGURE 42. ANTIDESMA BUNIUS (BIGNAI).

Genus **CICCA****CICCA ACIDA** (L.) Merr. (Fig. 44).

ÍBA.

Local names: *Iba* (Tayabas, Manila); *karamái* (Ilocos Sur, Abra); *karmái* (Mindoro); *laioán* (Camarines).

The fruit is rounded, greenish-white, 1 to 1.5 centimeters in diameter, fleshy, acid, edible, and contains a hard, bony, 6- to 8-grooved stone.

Cicca acida is a small deciduous tree 4 to 9 meters in height. The branches bear nodules in the axils of the fallen leaves. The leaves are smooth, 20 to 40 centimeters long, pinnate with alternate pinnae, which are rounded at the base, pointed at the tip, and from 2 to 7 centimeters long. The flowers are small, pink, and crowded in clusters on racemes which grow from the nodules on the branches. Male and female flowers are usually on separate plants.

This species is widely distributed in and about towns in the Philippines and is occasionally cultivated for its edible fruits.

Genus **MACARANGA****MACARANGA TANARIUS** Muell-Arg. (Fig. 45).

BINÚÑGA.

Local names: *Alañgabun*, *anabun* (Bagobo); *bagambáng*, *ma-ásim* (Rizal); *bilua* (Pampanga); *biluán*, *binungan*, *malabúñga*, *biluan-lalaki* (Bataan); *bilúñga* (Tayabas); *bing-ua* (Nueva Vizcaya); *binúñga* (Bataan, Bulacan, Rizal, Laguna, Camarines, Polillo, Mindoro, Guimaras Island, Negros, Palawan); *binuga*, *luñgakan* (Davao); *gamú*, *samuk* (Cagayan); *ginabang* (Benguet); *labanel* (Lepanto); *lagau* (Bisayan); *lagaon*, *ligabon* (Manobo); *malabúñga* (Mindanao); *mindáng* (Camarines); *minúñga* (Agusan); *samák* (Ilocos Norte, Abra, Camiguin Island).

The bark and leaves of this tree are extensively utilized in the manufacture of a popular fermented drink known as basi. The fruits are sometimes used for the same purpose.

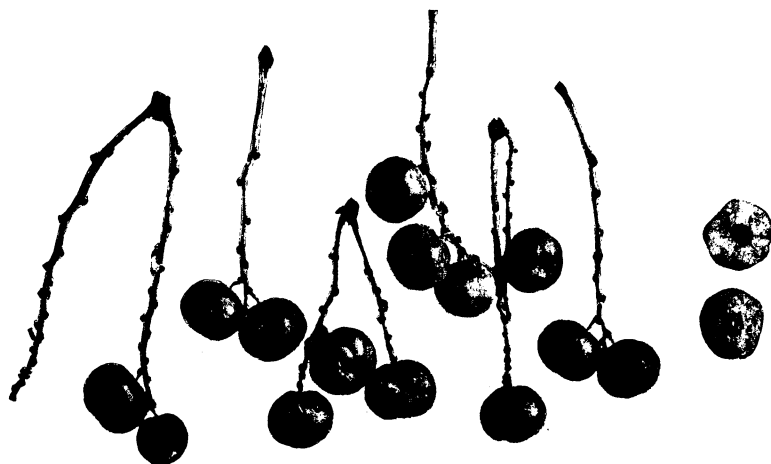
The bark is removed in large sheets and then cut into strips about 1.5 meters in length and about 20 centimeters in width. The strips are dried in the sun, sorted, and packed in bundles of from twenty to fifty pieces. These bundles sell at from 20 to 50 centavos or more.

The dried leaves are gathered after they have fallen from the tree. The petioles and larger veins are removed and the remaining part crushed.

Basi is made from sugar-cane juice to which binuñga bark and leaves, and sometimes other ingredients, are added. There are two quantities of basi: basi-núang (carabao basi), which is harsh to the taste, strong, astringent, and not sweet; and basi-



FIGURE 43. *ANTIDESMA BUNIUS* (BIGNAI).



5 cm.

FIGURE 44. *CICCA ACIDA* (IBA).

babae, which has a soft, sweet taste. The latter is made from the more concentrated syrup.

The process of manufacture is in general as follows: First, sugar-cane juice is collected in large jars at a mill. This juice is heated in open pans until it reaches a certain degree of concentration, which varies according to the quality of basi desired. When boiling begins, crushed leaves or powdered bark of binuñga is added to the juice. The scum is removed while the mixture boils. When a desired concentration has been reached, the syrup is poured into large jars (tinajas) and allowed to cool. On the following day, a considerable quantity of crushed binuñga leaves is put into the jars, which are then tightly covered. After two or three months, the crushed leaves are replaced by powdered bark, which is supposed to improve the flavor of the basi. The amount of bark used influences the quality very greatly, as increasing the quantity makes the basi more piquant and intoxicating. Aging is said to improve the quality. This is frequently done in jars, which are buried underground.

Other ingredients are sometimes added to the basi. The addition of the husks of cacao fruit or coffee beans makes the drink slightly bitter, powdered pepper gives it a pungent taste, while the bark of *Eugenia cumini* (duhat) is said to make it more astringent.

When binuñga bark is not available, the bark of kariskis, *Albizzia lebbekoides*, can be substituted. The leaves of kariskis are, however, not used, so other ingredients must be added.

Macaranga tanarius is a small tree reaching a height of 4 to 8 meters. The leaves are alternate, 10 to 25 centimeters long, shield-shaped, with the petiole attached to the lower surface within the margin.

This species is very common and widely distributed in open places and second-growth forests throughout the Philippines.

Family ANACARDIACEAE

Genus DRACONTOMELUM

DRACONTOMELUM DAO (Blanco.) Merr. & Rolfe. (Figs. 46, 47). DAÓ.

Local names: *Daó* (Bataan, Rizal, Laguna, Tayabas, Camarines, Albay, Sorsogon, Masbate, Samar, Negros, Leyte, Palawan, Mindoro, Cotabato, Zamboanga); *habás* (Butuan); *kamárak* or *kamárág* (N. Luzon); *lupigí* (Cagayan); *makadáeg* (Ilocos Norte); *mamákau* (Agusan, Davao); *mákau* (Agusan, Cotabato); *malaiyau* (Tayabas).

The fruits are yellow, rounded, about 2 centimeters in diameter, and have an edible pulp around the seed.

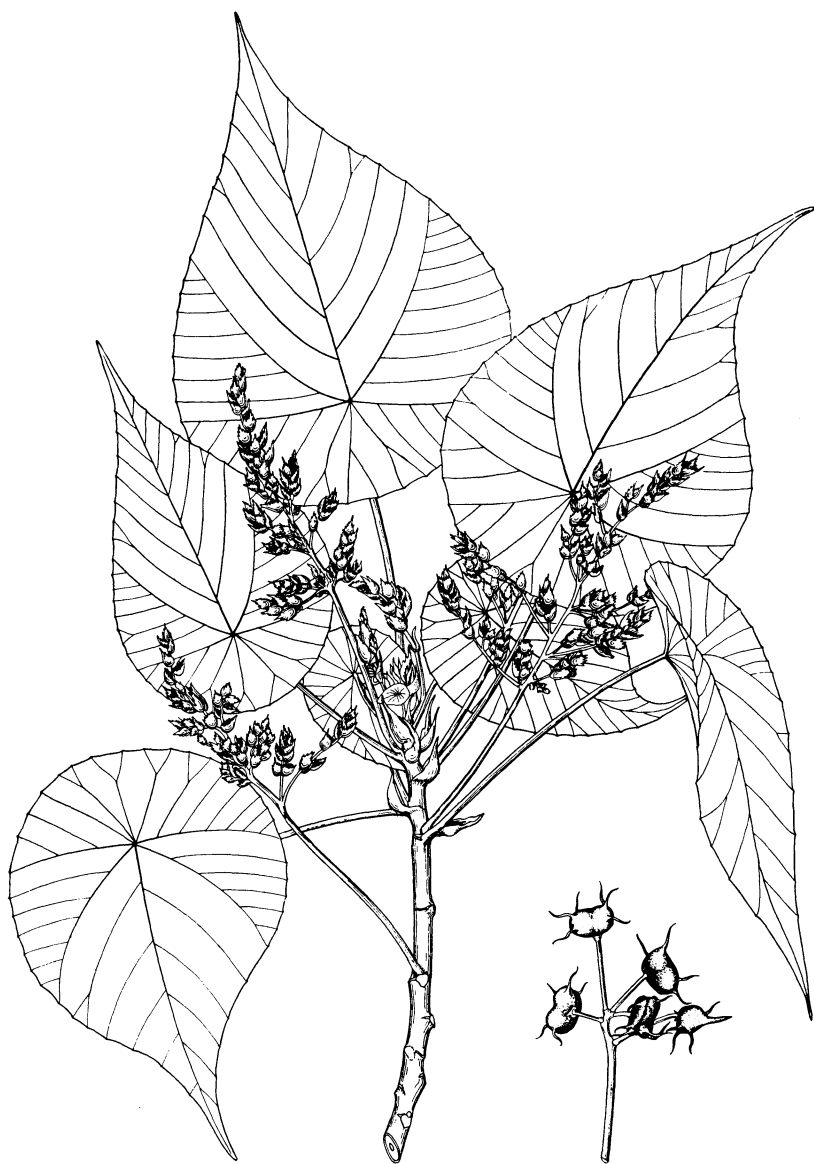


FIGURE 45. *MACARANGA TANARIUS* (BINUNGA). $\times 8$.



J.Vitan del.

FIGURE 46. *DRACONTOMELUM DAO* (DAO).



FIGURE 47. DRACONTOMELUM DAO (DAO).

Dracontomelum dao is a tree reaching a height of 35 to 40 meters and a diameter of 100 centimeters or more. The leaves are alternate and compound, usually with 5 to 7 pairs of leaflets. The leaflets are smooth, pointed at the apex, abruptly pointed at the base, 5 to 15 centimeters long, and from 3 to 4.5 centimeters wide. The flowers are small, white, odorless, and are borne on compound inflorescences.

This species is common and widely distributed throughout the Philippines.

DRACONTOMELUM EDULE (Blanco) Skeels. (Fig. 48). LAMIÓ.

Local names: *Aduás* (Rizal); *alauíhau* (Samar, Leyte); *amúgis* (Cotabato); *anángging-putí* (Tayabas); *balibali* (Tablas Island); *halauíhan* (Camarines); *lamió* (Bataan, Bulacan, Laguna).

The fruits are rounded, yellow, and have an edible pulp around the seed.

Dracontomelum edule is a tree reaching a height of about 20 meters and a diameter of about 60 centimeters. The leaves are alternate, pinnate, and hairy; the leaflets are pointed at the apex, rounded at the base, and from 10 to 20 centimeters in length. The flowers are small, and occur on rather large, compound inflorescences.

This species is common and distributed from northern Luzon to southern Mindanao.

Genus **MANGIFERA**

MANGIFERA ALTISSIMA Blanco. (Fig. 49). PAHÚTAN.

Local names: *Banítan*, *bumitan* (Cagayan); *malapáho* (Zambales, Sibuyan); *manggapóle* (Olutanga Island, Zamboanga); *pahuhútan* (Tayabas); *páho* (Nueva Ecija, Pangasinan, Bataan, Rizal, Camarines, Mindoro, Sibuyan, Samar); *pahútan*, *pahuhútan* (Tayabas, Camarines, Bataan, Zambales, Mindoro, Masbate); *pañgahútan* (Tayabas); *pangmanggáen* (Ilocos Sur).

The fruit is 5 to 8 centimeters long and 4 to 6 centimeters wide, shaped like a mango, smooth, green to yellowish, and resinous. It is used for making pickles.

Mangifera altissima is a tree reaching a height of 35 meters and a diameter of 80 centimeters. The leaves are rather long, narrow, and pointed at both ends. The flowers are small, white, fragrant, and occur in large number on branched inflorescences.

This species is rather common and is distributed in the forests from northern Luzon to southern Mindanao, but is not cultivated.

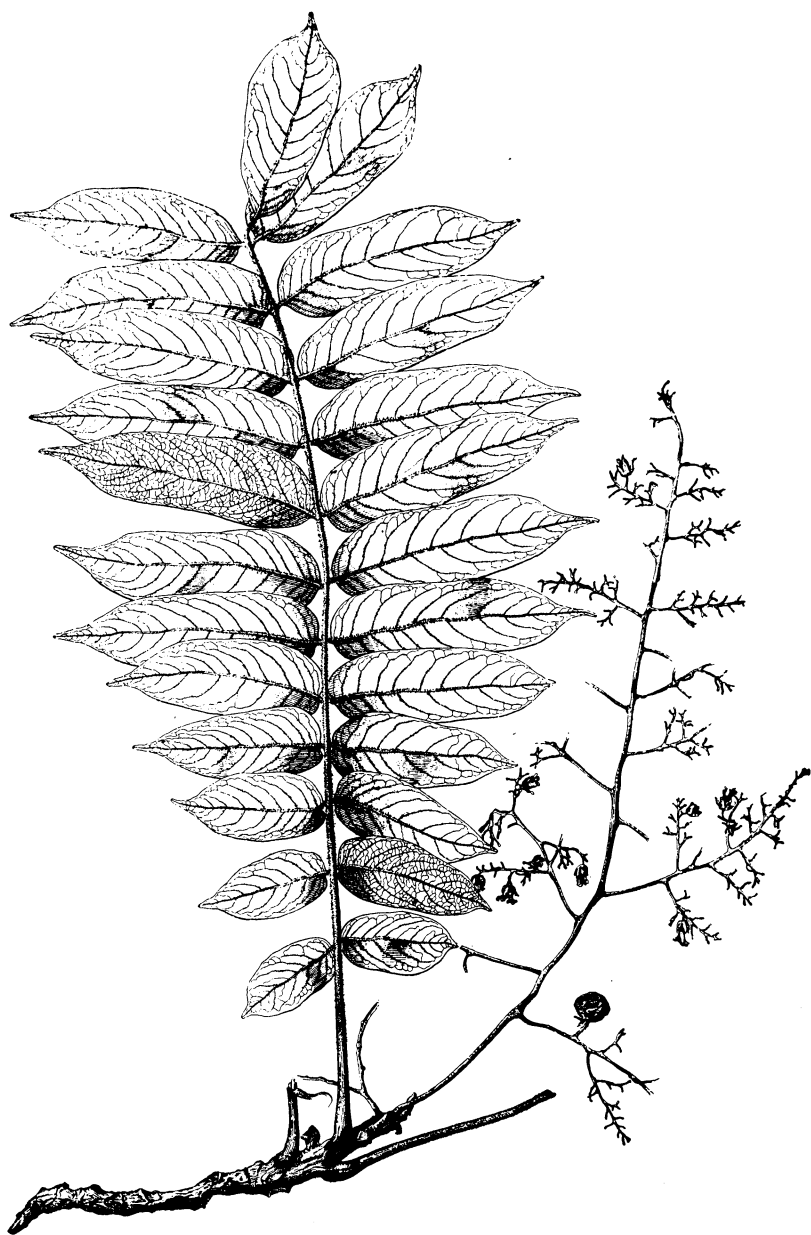


FIGURE 48. *DRACONTOMELUM EDULE* (LAMIO).



FIGURE 49. *MANGIFERA ALTISSIMA* (PAHUTAN). $\times \frac{2}{3}$.

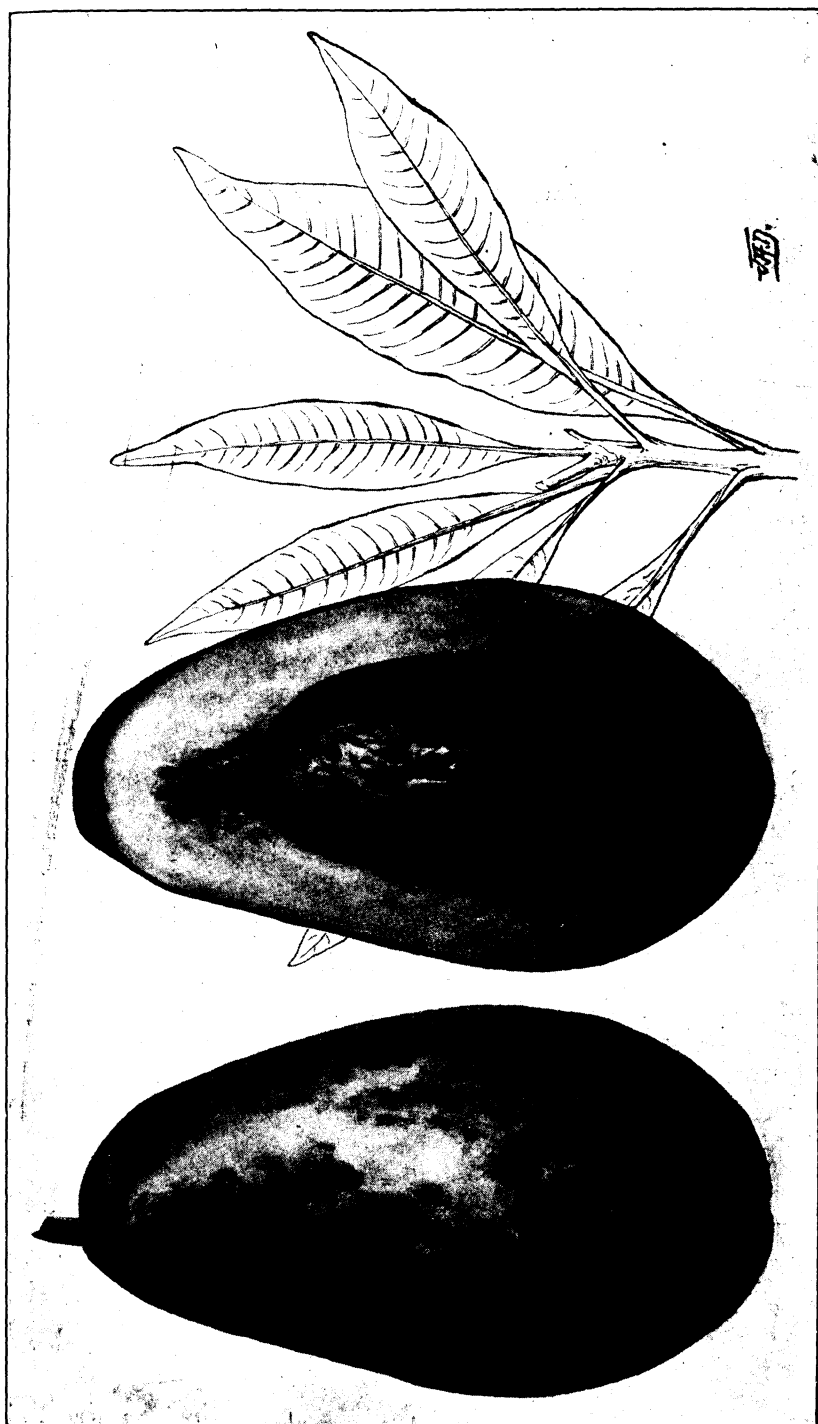


FIGURE 50. *MANGIFERA CAESIA* (BALUNO).

MANGIFERA CAESIA Jack. (Fig. 50).

BALÚNO.

Local names: *Balúno* (Zamboanga); *baúno* (Basilan).

The fruit resembles the commonly cultivated mango and is sold in the markets of Zamboanga. The tree is sometimes cultivated for the fruits.

According to Heyne,* the seed kernels are pounded with leaves of *Solanum nigrum*, and used as a condiment with rice.

Mangifera caesia is a tree reaching a height of about 25 meters and a diameter of about 120 centimeters. The leaves are smooth, and pointed at both ends.

This species is found in Mindanao and neighboring islands, and in the Sulu Archipelago.

MANGIFERA ODORATA Griff.

HUANÍ.

Local names: *Huaní* (Zamboanga); *uaní* (Basilan).

The fruit of this species is similar to that of the cultivated mango.

Mangifera odorata is a tree reaching a height of about 25 meters and a diameter of about 40 centimeters. The leaves are alternate, leathery, pointed at both ends, and about 25 centimeters in length. The flowers are small and borne on rather large, compound inflorescences.

This species has been reported from Balabac, Zamboanga, and Basilan. It is cultivated at the Lamao Experiment Station.

Genus **SEMECARPUS****SEMECARPUS CUNEIFORMIS** Blanco. (Fig. 51).

LIGÁS.

Local names: *Agás* (Guimaras Island); *anagás* (Negros Occidental); *kamiing* (Zambales, Pampanga, Bataan); *kamiring* (Ilocos Sur, Abra, Cagayan, Union, Pangasinan); *ligás* (Nueva Ecija, Bataan, Manila, Rizal, Mindoro); *pakan* (Bontoc).

The fruit resembles the cashew in form, but is smaller. The drupe is ovoid, oblique, a centimeter long, and is borne on a fleshy, purple receptacle, which is about as long as the drupe.

Semecarpus cuneiformis is a tree reaching a height of about 12 meters and a diameter of about 25 centimeters. The leaves are somewhat crowded at the ends of the branches, hairy beneath, rounded or somewhat pointed at the tip, usually pointed at the base, and from 10 to 20 centimeters in length. The flowers are

* Heyne, K., *De Nuttige Planten van Nederlandsch-Indië*, Volume 3, page 125.



FIGURE 51. SEMECARPUS CUNEIFORMIS (LIGAS). $\times \frac{1}{2}$.

whitish, 2 to 2.5 centimeters long, and borne on compound inflorescences which are usually longer than the leaves.

This species is common and widely distributed in the Philippines, but has not been reported from Mindanao. It is not in cultivation.

SEMECARPUS GIGANTIFOLIA F. Vill. (Fig. 52). MANALU.

Local names: *Anagás*, (Mindoro); *ligás* (Laguna); *manalu* (Bisaya); *niog-niógan* (Tayabas); *topó* (Camarines); *túkud-lañgít* (Bataan).

The fruits are 3 to 4 centimeters long, deep purple, fleshy, juicy, edible, but somewhat astringent. They are produced in great abundance on the trunk, in panicles which are 10 to 40 centimeters long or longer.

Semecarpus gigantifolia is a tree reaching a height of 15 meters and a diameter of 50 centimeters. The leaves are very large. The flowers are small, and borne in large numbers on compound inflorescences.

This species is common and distributed in the forests from Luzon to Mindanao.

Genus SPONDIAS

SPONDIAS PINNATA (L. f.) Kurz. (Fig. 53). LIBÁS.

Local names: *Lannú*, *lanó* (Cagayan); *libás* (Bataan, Tayabas, Capiz, Cotabato, Zamboanga); *lubás* (Bikol).

The fruit is rounded, yellow, with a finely flavored, edible pulp. The leaves and fruits are sour, and are used in stews.

Spondias pinnata is a tree reaching a height of about 25 meters and a diameter of about 60 centimeters. The leaves are alternate, pinnate, 20 centimeters or more in length; the leaflets pointed at the apex, rounded or abruptly pointed at the base, and 7 to 14 centimeters in length.

This species is distributed from northern Luzon to southern Mindanao, but apparently is not common.

Family SAPINDACEAE

Genus CUBILIA

CUBILIA BLANCOI Blume. KUBILÍ.

Local names: *Atilang* (Nueva Vizcaya); *kamatatalina*, *lubilúbi* (Rizal); *kubilí* (Bulacan, Rizal); *malaságing* (Bulacan); *tabas* (Samar).

The fruit is oval, about 5 centimeters long, and covered with very numerous, pointed projections. It contains a nut of good quality.

Cubilia blancoi is a tree reaching a height of 15 meters and a diameter of 50 centimeters. The leaves are compound with rather large leaflets which are smooth and pointed at both ends.

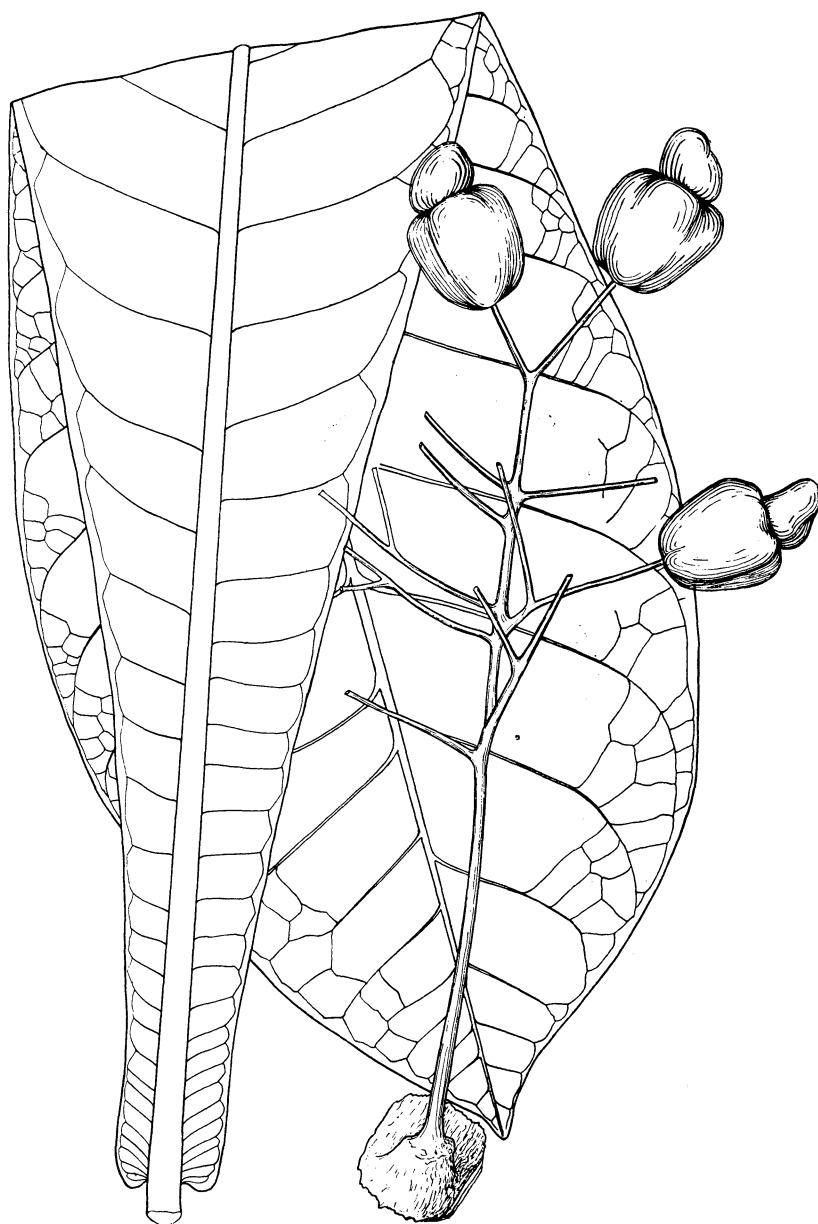


FIGURE 52. SEMECARPUS GIGANTIFOLIA (MĀNALU). $\times \frac{1}{2}$.

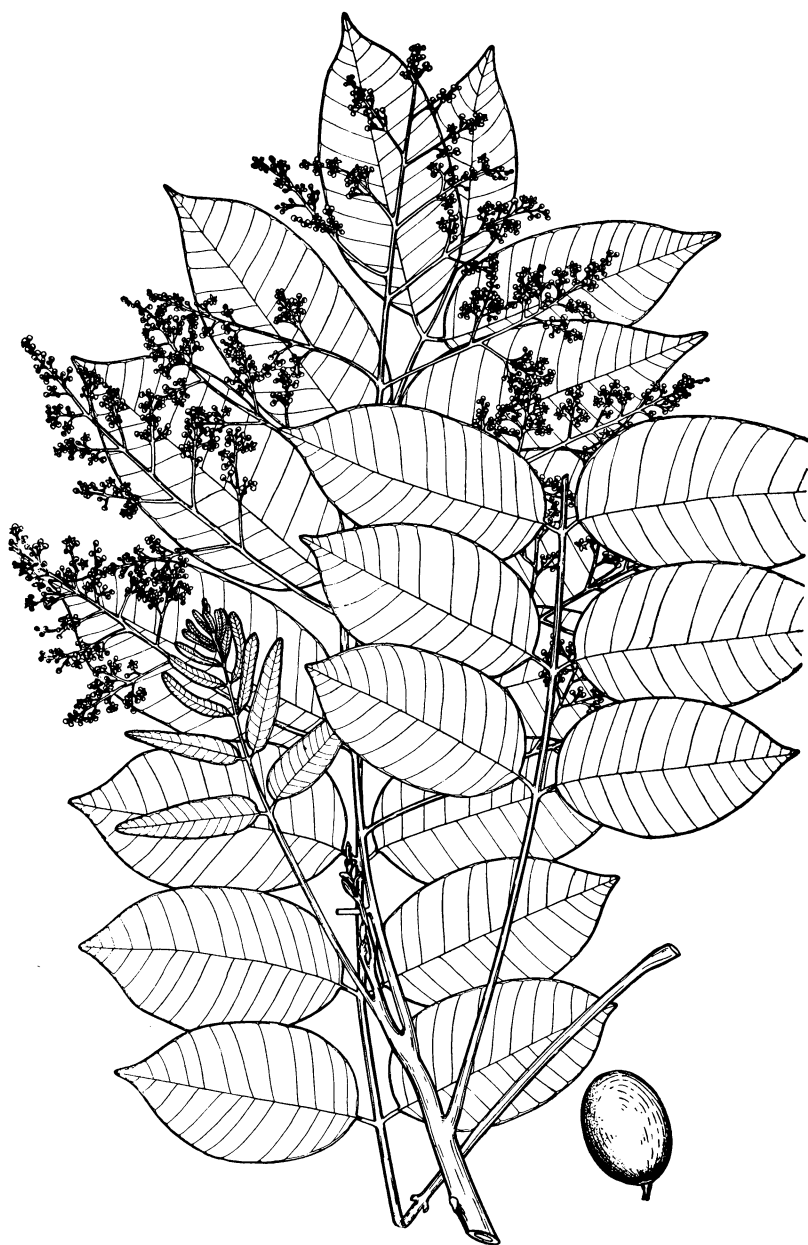


FIGURE 53. SPONDIAS PINNATA (LIBAS). $\times 8$.



FIGURE 54. *EUPHORIA DIDYMA* (ALUPAG). $\times \frac{1}{2}$.

The flowers are small and are borne on rather large inflorescences. This species is distributed from Luzon to Mindanao.

Genus EUPHORIA

EUPHORIA DIDYMA Blanco. (Fig. 54).

ALUPÁG.

Local names: *Alupág* (Mindoro, Bataan, Tayabas, Lanao, Laguna, Marinduque Island, Cavite, Batangas, Basilan, Malani Island); *alupág-amó*, *bayyét*, *baít* (Tayabas); *alupái* (Bulacan, Mindoro, Nueva Ecija, Pampanga, Rizal); *alupák* (Zamboanga, Bataan, Rizal); *anĩnguái*, *balĩnkaĩgin*, *bakeles* (Pangasinan); *apalung*, *marutong*, *demopa* (Cagayan); *arupág*, *ayupág* (Mindoro); *arupái* (Rizal, Laguna, Mindoro); *bakkaláu* or *bakaláu* (Pangasinan, Ilocos Norte and Sur, Zambales); *balít* (Negros); *buk-kaláu* (Ilocos Sur, Abra, Cagayan, Isabela); *dagingdiĩgan* (Samar); *gisihan* (Cavite, Batangas); *halupág* (Polillo, Laguna, Tayabas); *kalupái* (Zambales); *kandongisól*, *panuto* (Masbate); *kukuris* (Palawan); *lupák* (Camarines); *lupák* (Cotabato); *mamatá* (Olutanga Island); *matamatá* (Zamboanga); *usáu*, *uláyan* (Leyte).

The fruits are greenish, very rough, and occur in loose clusters. They are similar in appearance to the Chinese litchi. The flesh is whitish, sweet, juicy, and of good flavor.

Euphoria didyma is a tree reaching a height of 25 meters and a diameter of 55 centimeters. The leaves are alternate and compound. The flowers are small, whitish or yellowish, and borne on simple or compound inflorescences.

This species is very common and widely distributed throughout the Archipelago. It is rarely cultivated.

EUPHORIA NEPHELIOIDES Radlk.

The pulp around the seed is edible.

Euphoria nepheloides is a tree reaching a height of about 25 meters and a diameter of about 40 centimeters. The leaves are alternate and compound, with leathery leaflets, which are pointed at both ends.

This species has been reported only from Basilan.

Genus HEDYACHRAS

HEDYACHRAS PHILIPPINENSIS Radlk.

The fruit of this species is 5 to 6 centimeters in diameter, shaped somewhat like a peach, yellow, smooth, thin-skinned, fleshy, subacid, and edible though a trifle astringent, and contains two large seeds.

Hedyachras philippinensis is a tree about 15 meters in height. The leaves are alternate and compound with 4 to 5 pairs of opposite leaflets which are pointed at the apex, rounded or pointed at the base, and 10 to 12 centimeters in length. The flowers are



FIGURE 55. *NEPHELIUM LAPPACEUM* (USAU OR RAMBUTAN). $\times 8$.

small, greenish, with a disagreeable odor, and occur in considerable numbers on compound flowering shoots.

This species is known from only one specimen which was found growing wild on what is now the campus of the College of Agriculture at Los Baños, Laguna.

Genus **NEPHELIUM**

NEPHELIUM LAPPACEUM L. (Fig. 55).

USÁU or RAMBUTÁN.

Local name: *Usáu* (Jolo).

The pulp of the fruit has an excellent flavor.

Nephelium lappaceum is a tree. The leaves are smooth, pointed at the tip, and somewhat rounded at the base. The flowers are very numerous on compound inflorescences. In the Philippines, this species is found only in Palawan and Jolo. It is the well known Rambutan of the Malay region.

NEPHELIUM MUTABILE Blanco. (Fig. 56).

BULÁLA.

Local names: *Alpái* (Laguna); *bakaláu* (Pangasinan); *balimbīngan* (Lanao); *bulála* (Camarines, Tayabas, Laguna, Rizal); *kakao-kakao* (Surigao); *karayo* (Mindoro); *laguan* (Tayabas); *malamputian* (Samar); *marañgis* (Cagayan); *pangyáu* (Rizal).

The fruits are red, about 4 centimeters in length, and completely covered with numerous, rather soft projections. The flesh is white, abundant, juicy, and of very good flavor. It surrounds a single, rather large seed.

Nephelium mutabile is a tree reaching a height of about 25 meters and a diameter of 45 centimeters. The leaves are alternate and compound with rather large, smooth, alternate leaflets, which are pointed at both ends. The flowers are small, and occur in considerable numbers on simple or compound inflorescences.

This species is distributed from northern Luzon to southern Mindanao and is very common in Luzon.

Family **VITACEAE**

Genus **AMPELOCISSUS**

AMPELOCISSUS MARTINI Planch.

The fruits of this species are borne in grape-like clusters, are somewhat less than a centimeter in diameter, greenish salmon in color, fleshy, acid, and of fairly good flavor.

Ampelocissus martini is a large woody vine with conspicuous tendrils. The leaves are somewhat hairy, three-lobed, with toothed margins, and a russet, velvety lower surface. The

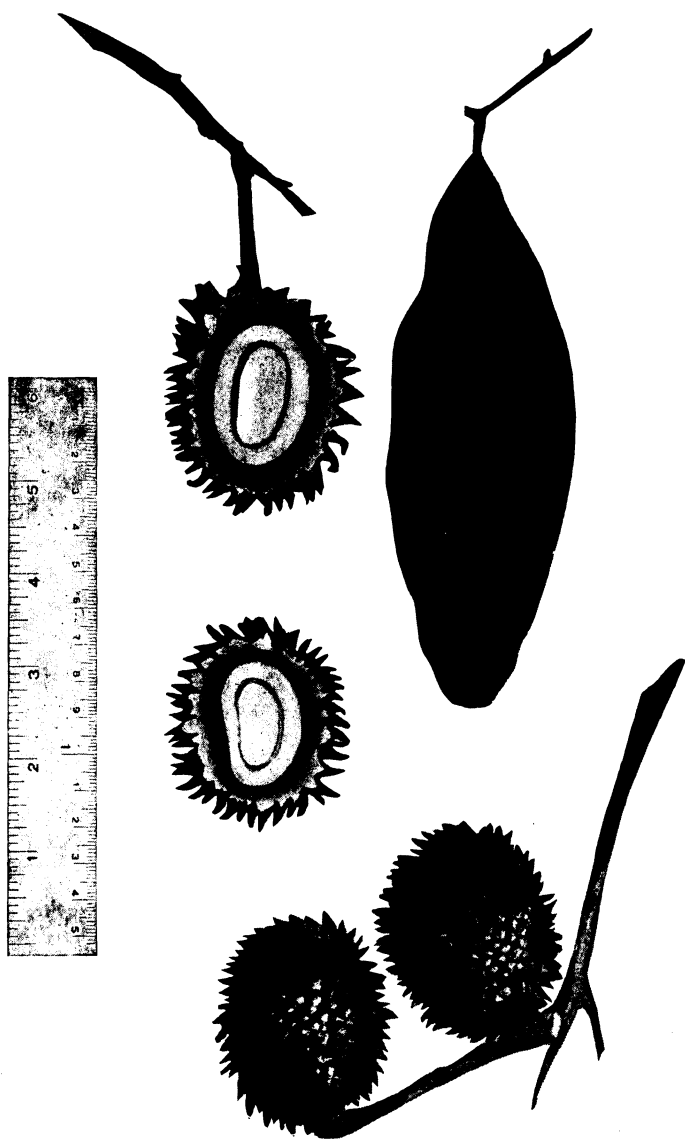


FIGURE 56. *NEPHELIUM MUTABILE* (BULALA).

flowers are small, reddish purple, and crowded on compound flowering branches.

This species is distributed from Luzon to Palawan, but is apparently not abundant.

Genus **TETRASTIGMA**

TETRASTIGMA HARMANDII Pl.

Ayo.

Local names: *Ayo* (Bataan, Bulacan); *ariuat* (La Union, Pangasinan, Abra); *kalit* (Tayabas); *iyó* (Bataan).

The fruits are edible. The sour leaves and fruits are used for flavoring.

Tetrastigma harmandii is a woody vine reaching 10 meters in length. The stems are somewhat compressed, rough, and 1 to 2.5 centimeters in diameter. It climbs by means of simple tendrils. The leaves are alternate and compound with usually 3 or 5, but sometimes 7 leaflets. The leaflets are pointed at the tip, coarsely toothed, smooth, shiny, and 5 to 12 centimeters in length. The flowering shoots are 4 to 10 centimeters long and wide. The flowers are pale green, fragrant, and numerous. The petals are about 3.5 millimeters long. The fruit is rounded, smooth, fleshy, and more than a centimeter and a half in diameter.

This species is common in Luzon and is also found in Mindoro and Leyte. In Manila it is occasionally cultivated for ornamental purposes.

TETRASTIGMA LOHERI Gagnep.

BARIUATUÁT.

Local name: *Bariatuát* (Ilocos Norte).

The sour leaves are used as flavoring. The fruits are edible.

Tetrastigma loheri is a woody vine. It climbs by means of simple tendrils. The leaves are alternate and compound with 3 leaflets which are pointed at the tip, rounded or pointed at the base, coarsely toothed, and from 7 to 20 centimeters in length. The flowers are small, pale yellow, and occur in rounded clusters. The fruits are round, fleshy, and about a centimeter in diameter.

This species is found in Luzon.

Family **ELAEOCARPACEAE**

Genus **ELAEOCARPUS**

ELAEOCARPUS CALOMALA (Blanco) Merr.

KALOMALA.

A description of this species and its local names are given in the bulletin on fibers.

The fruit is oval, red, about 2.5 to 3 centimeters long, contains a single, large, rough stone, and is edible.



FIGURE 57. *DIPLODISCUS PANICULATUS* (BALOBO). $\times \frac{2}{3}$.

Genus **MUNTINGIA****MUNTINGIA CALABURA** L.

DÁTILES.

A description of this species and its local names are given in the bulletin on fibers.

The fruits are round, smooth, red, about 1.5 centimeters in diameter, sweet, fleshy, and contain numerous, small seeds. The fruits are very commonly eaten by children.

Family **TILIACEAE**Genus **CORCHORUS****CORCHORUS OLITORIUS** Linn.

PÁSAU or JUTE.

A description of this species and its local names are given in the bulletin on fibers.

The leaves of this species are cooked and eaten as a vegetable.

Genus **DIPLODISCUS****DIPLODISCUS PANICULATUS** Turcz. (Fig. 57).

BALOBÓ.

A description of this species and its local names are given in the bulletin on fibers.

The starchy seeds when boiled have a good flavor. When the fruits are mature they can frequently be gathered in very large quantities with little labor.

Genus **GREWIA****GREWIA EDULIS** Merr. (Fig. 53).

BALUKÓK.

Local names: *Anakseng* (Pangasinan); *bagiod* (Ilocos Sur); *balukók* (Tagalog).

The fruits are about 2 centimeters in diameter, yellowish, and of good flavor.

Grewia edulis is a small tree with alternate leaves which are pointed at both ends. The leaves are somewhat hairy, particularly on the lower surfaces.

This species has been reported from Ilocos Norte, Ilocos Sur, Pangasinan, Nueva Ecija, and Batangas.

GREWIA ERIOCARPA Juss. (*G. negrosensis*) (Fig. 59).

BARIUÁN.

A description of this species and its local names are given in the bulletin on fibers.

The fruit is small, round, bluish, and edible.

GREWIA STYLOCARPA Warb. (Fig. 60).

KAMÚLING.

Local names: *Agdang*, *susumbig* (Laguna); *apung*, *balopo*, *kamuling* (Camarines); *baiobo* (Rizal); *balebagun-gubat*, *sósong-dalága*, *patling* (Zambales); *balit* (Negros); *balobo* (Lanao); *barobo* (Samar); *basilalag* (Isabela); *balsakan* (Tayabas); *kalumpit-puti* (Batangas); *lanutan-puti* (Ticao); *lapnisan* (Leyte); *makaya* (Palawan); *moling-moling* (Tayabas).



FIGURE 58. GREWIA EDULIS (BALUKOK). $\times 2$.



FIGURE 59. GREWIA ERIOCARPA (BARIUAN). $\times \frac{1}{2}$.



FIGURE 60. GREWIA STYLOCARPA (KAMULING). $\times \frac{1}{2}$.

Camarines); *namut* (Cagayan, Ilocos Norte); *ñgano* (Apayao); *paoli*, *puled*, *pulit* (Cagayan); *porong* (Mindoro, Negros); *susumbik*, *susumbik*, *susungbiig* (Bataan).

The fruits have an edible pulp of good flavor.

Grewia stylocarpa is a tree reaching a height of 15 meters and a diameter of 30 centimeters. The leaves are alternate, pointed at both ends, and up to about 25 centimeters in length. The flowers are small, yellow, and borne on compound inflorescences.

This species is very common and widely distributed from northern Luzon to southern Mindanao.

Family MALVACEAE

Genus HIBISCUS

HIBISCUS SURATTENSIS Linn.

LABUÁG.

Local names: *Kalitoitoi* (Palawan); *labuág* (Capiz); *sabnit*, *sapinit* (Rizal).

The acid leaves are cooked as a condiment with meat or fish.

Hibiscus surattensis is a spiny vine. The leaves are alternate, deeply lobed, somewhat hairy, have toothed margins, and are up to about 7 centimeters in diameter. The flowers are large, yellowish or whitish, and tinged with red.

This species is distributed from northern Luzon to southern Mindanao.

Family STERCULIACEAE

Genus STERCULIA

STERCULIA FOETIDA L.

KALUMPÁNG.

A description of this species and its local names are given in the bulletin on resins, gums, and oils.

The seeds are edible and have a purgative effect. They are flavored like cacao, but are not bitter, and are used to adulterate cacao.

STERCULIA OBLONGATA R. Br. (Fig. 61).

MALABÓHO.

Local names: *Bakau* (Mindoro); *banilad* (Rizal, Mindoro); *bonña* (Tayabas); *bunglás* (Rizal); *janták* (Batanes Islands); *lapnit* (Calayan Island); *malabóho* (Bataan); *malanbanilad* (Samar); *malakakáo* (Bataan, Laguna); *óos* or *úos* (Camarines); *pañgan* (Mountain Prov.); *saripong-póng* (Sorsogon).

The fruits are red, inflated, hairy, with a thick leathery covering, and contain a number of nuts which are eaten by the people of the Mountain Province.

Sterculia oblongata is a tree usually 12 meters or less in height. The leaves are smooth or nearly so, oblong, somewhat pointed



FIGURE 61. STERCULIA OBLONGATA (MALABOHO). $\times \frac{1}{2}$.

at the tip, rounded or heart-shaped at the base, and 10 to 20 centimeters long. The flowers are 5 to 6 millimeters long, somewhat hairy, and are borne in large numbers in narrow panicles in the axils of the upper leaves.

This species is common and widely distributed from the Batanes Islands to southern Mindanao. It is cultivated only at the Lamao Experiment Station.

Family DILLENIACEAE

Genus *DILLANIA*

DILLANIA MEGALANTHA Merr.

KATMÓN-BAYÁNI.

Local names: *Katmón* (Leyte, Sorsogon, Samar, Camarines); *katmón-bayáni* (Tayabas).

The fruits are large and rounded. The edible part is green, fleshy, and juicy, with an acid taste. It is suitable for preserves.

Dillenia megalantha is a tree reaching a height of about 30 meters and a diameter of about a meter. The leaves are very large, and prominently toothed. The flowers are yellow, and about 10 centimeters in diameter.

This species has been reported only from Tayabas, Camarines, Sorsogon, Samar, and Leyte.

DILLANIA PHILIPPINENSIS Rolfe. (Figs. 62, 63).

KATMÓN.

Local names: *Balobayáuk* (Negros); *biskán* (Benguet); *diñgin* (Zambales); *kalambugi* (Lanao); *kambug* (Port Banga); *katmón* (Cagayan, Zambales, Nueva Ecija, Pampanga, Bataan, Rizal, Cavite, Batangas, Tayabas, Polillo, Camarines, Mindoro, Sorsogon, Guimaras Island, Masbate, Cebu, Samar, Agusan, Cotabato, Lanao, Zamboanga, Basilan); *palali* (Camiguin Island); *pamamalien* (Pangasinan).

The fruit is rounded and contains a soft, fleshy, green pulp which is edible, with a flavor somewhat like that of an apple. The fresh fruit is not particularly good, but owing to its acid, juicy character, it is refreshing when eaten in the woods. It makes an excellent sauce or jam. It is also used for flavoring fish.

A red dye is obtained from the bark of this tree.

Dillenia philippinensis is a tree reaching a height of about 17 meters and a diameter of about 55 centimeters. The leaves are leathery, shiny, somewhat oval in shape, and coarsely toothed. The flowers are showy, about 15 centimeters in diameter, with large, white petals.

This species is very common and widely distributed in the Philippine Islands. It is a very ornamental tree, but is seldom cultivated.



FIGURE 62. *DILLENIA PHILIPPINENSIS* (KATMON). $\times \frac{1}{2}$.

DILLENIA REIFFERSCHIEDIA F. Vill.

KATMÓN-KALABÁU.

Local names: *Baláli* or *paláli* (Camarines); *katmón* (Rizal, Laguna, Tayabas, Mindoro, Negros); *katmón-kalabáu* (Tayabas, Laguna); *katmón-kadlagán* (Sorsogon).

The fruit is green, fleshy, and about the size of a small apple. The edible portion is green, juicy, acid, with something of the flavor of an apple. The taste of the fruit is not particularly good, but owing to its acid, juicy character, it is refreshing when eaten in the woods. It makes an excellent sauce or jam.

Dillenia reifferscheidia is a tree reaching a height of about 15 meters and a diameter of 45 centimeters. The leaves are alternate, smooth, and very large. The flowers are very large, white, and showy.

This species is distributed from central Luzon to southern Mindanao. It occurs most abundantly at medium elevations and in some places is very common.

Family GUTTIFERAE

Genus **CALOPHYLLUM****CALOPHYLLUM INOPHYLLUM** L.

BITÁOG or PALOMARIA.

A description of this species and its local names are given in the bulletin on resins, gums, and oils.

The thin, rounded shells of the seeds of *Calophyllum inophyllum* are used as containers for buri sugar sold as a confection. For a description of this sugar see the bulletin on palms.

Genus **GARCINIA****GARCINIA BINUCAO** Choisy. (Fig. 64).

BINÚKAU.

Local names: *Ballók* (Benguet); *balukut* (Ilocos Norte); *bangkók* (Zambales); *batúan* (Negros, Guimaras Island, Burias Island); *bilúkau* (Rizal, Bataan, Batangas, Camarines); *binúkau* (Laguna, Bataan); *buragrís* (Camarines); *kamangsi* (Tayabas); *harás* (Capiz); *kandís* (Palawan); *kanúmai*, *kulilém* (Cagayan); *maninilá* (Albay).

The fruits are yellowish, somewhat rounded, and 4 centimeters or more in diameter. They have a firm outer covering and contain a very acid pulp and several seeds. The fruit is eaten by the Filipinos with fish.

Garcinia binucao is a tree reaching a height of about 25 meters and a diameter of about 40 centimeters. The leaves are opposite, smooth, leathery, and from 5 to 12 centimeters or more in length. The flowers are small, red, and borne in small clusters.

This species is common and widely distributed throughout Luzon and the Visayan Islands. It is cultivated only at the Lamao Experiment Station.

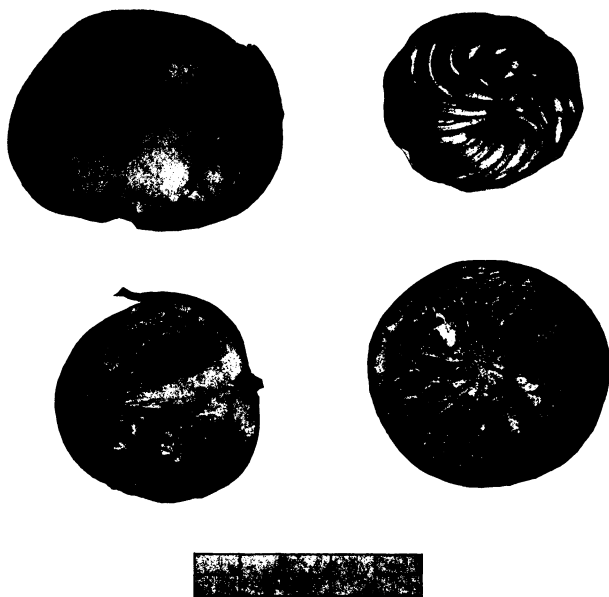


FIGURE 63. *DILLENIA PHILIPPINENSIS* (KATMON).



FIGURE 64. *GARCINIA BINUCAO* (BINUKAU). $\times 1$.



FIGURE 65. *GARCINIA DULCIS* (TAKLANG-ANAK). $\times 2$.

GARCINIA DULCIS Kurz. (Fig. 65).

TAKLÁNG-ANÁK.

Local names: *Alokó* (Isabela); *baniti* (Zambales); *bunég* (Cagayan, Ilocos Sur, Pangasinan); *gatásan* (Palawan, Camarines, Negros); *takláng-anák* (Rizal, Bataan).

The fruit is yellow, smooth, and about 5 to 7 centimeters in diameter. It has a firm outer covering, and a very acid, soft, juicy pulp. It is suitable for preserves.

According to Heyne,* the fruits are rarely seen in the markets of Batavia, but then in great quantities.

Garcinia dulcis is a tree reaching a height of about 15 meters and a diameter of about 30 centimeters. The leaves are opposite, smooth, leathery, somewhat oval in shape, and 12 to 20 centimeters or more in length. The flowers are white, over a centimeter in diameter, and borne in small rounded clusters.

This species is common and widely distributed from northern Luzon to the southern limits of the Philippines. It is not cultivated except at the Lamao Experiment Station.

GARCINIA MINDANAENSIS Merr.

KARÍIS.

Local names: *Gatásan*, *kari-is* (Bukidnon).

The fruit is edible.

Garcinia mindanaensis is a tree reaching a height of about 10 meters and a diameter of about 15 centimeters. The leaves are opposite, pointed at both ends, 13 to 18 centimeters long, and 4 to 8 centimeters wide. The male flowers are red, and occur in axillary fascicles. The petals are four in number, and about 7 millimeters long.

This species has been reported only from Mindanao and Basilan.

GARCINIA RUBRA Merr. (Fig. 66).

KAMANDÍIS.

Local names: *Kamandíis* (Laguna, Mindoro); *kamanitiis* (Mindoro); *kandíis* (Zamboanga).

The fruits are about 3 centimeters in diameter, somewhat rounded but flattened, yellowish to red, fleshy, and edible.

Garcinia rubra is a tree reaching a height of 10 meters and a diameter of 15 centimeters. The leaves are opposite, thin, pointed at both ends, and 6 to 12 centimeters in length. The flowers are small, borne in small, axillary clusters and are bright red.

This species is distributed from northern Luzon to northern Mindanao. It is not in cultivation.

* Heyne, K., *De Nuttige Planten van Nederlandsch-Indië*, Volume 3, page 264.

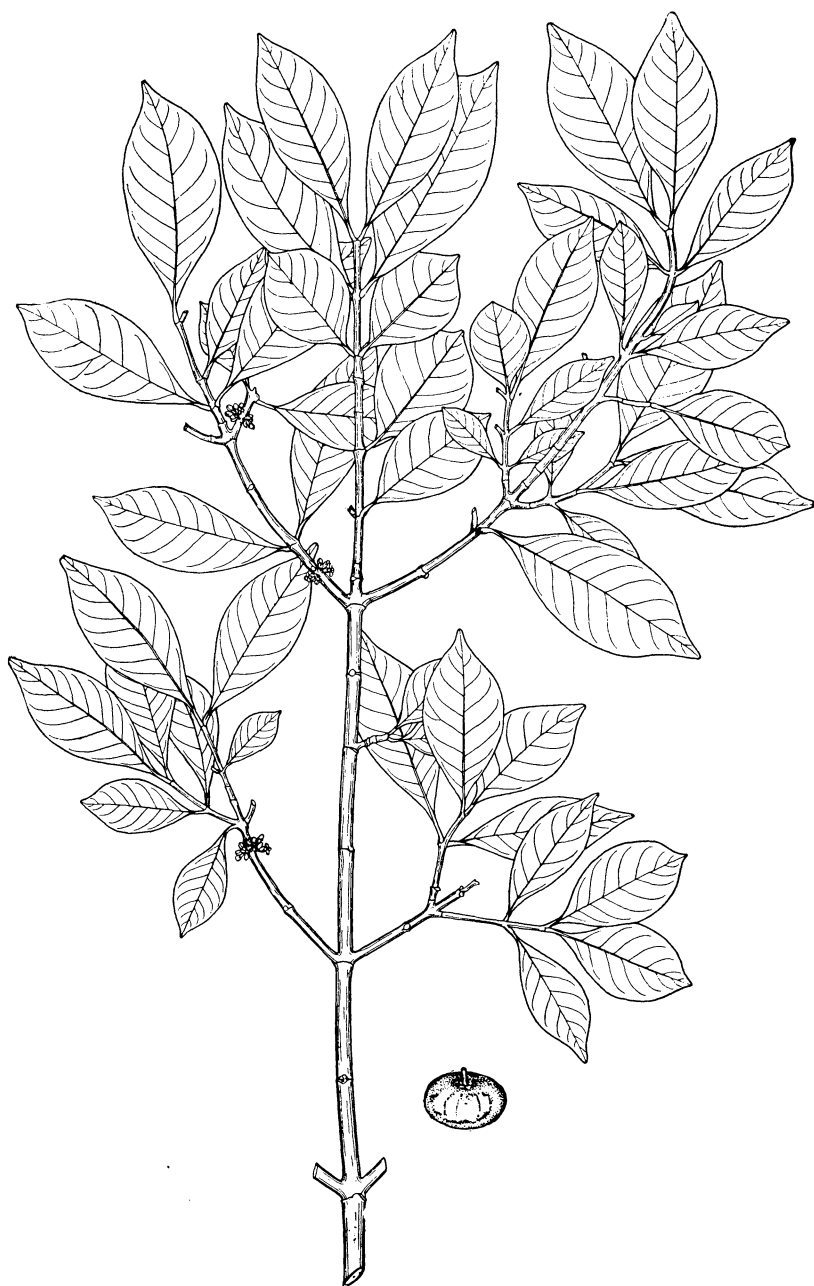


FIGURE 66. *GARCINIA RUBRA* (KAMANDIIS). $\times \frac{1}{2}$.

GARCINIA VENULOSA Choisy. (Fig. 67).

GATÁSAN.

Local names: *Bilúkau* (Camarines, Bataan); *binúkau* (Laguna); *bunóg* (Palawan); *bunág* (Cagayan); *bunég* (Pangasinan); *gatásan* (Laguna, Tayabas); *kalokóg* (Tayabas); *katúri* (Cagayan, Isabela); *mangala* (Zamboanga); *pédís* (Pampanga); *péris* (Cavite, Batanes); *takláng-anák* (Laguna, Bataan, Mindoro).

The fruits are about 4 to 6 centimeters in diameter, somewhat rounded but flattened, and sour. The edible portion is surrounded by a rather hard rind and contains several flat seeds. The fruit is eaten with fish by Filipinos.

Garcinia venulosa is a tree reaching a height of about 15 meters and a diameter of about 40 centimeters. The leaves are opposite, leathery, smooth, and up to 20 centimeters or more in length. The flowers are fairly small, and borne in rather small, rounded clusters.

This species is very common and widely distributed throughout the Philippines. It is not cultivated.

GARCINIA VIDALII Merr.

PÍRIS.

Local names: *Antol* (Mountain Prov.); *bilis* (Benguet); *bitanhól*, *bugalót* (Sibuyan); *bunúg* (Pangasinan); *katápang* (Butuan); *paláñge* (Leyte); *paláñgi* (Samar); *péres* or *píris* (Rizal).

The fruit is about 6 centimeters in diameter. It has a firm outer covering, several seeds, and a firm, acid, fleshy pulp with a pleasant flavor.

Garcinia vidalii is a tree reaching a height of 25 meters and a diameter of 90 centimeters. The leaves are opposite, smooth, leathery, oval, usually notched at the tip, and from 10 to 20 centimeters or more in length. The flowers are white, of medium size, and occur in clusters.

This species is distributed from the Mountain Province of Luzon to Mindanao. It is rarely cultivated.

Family FLACOURTIACEAE

Genus FLACOURTIA

FLACOURTIA RUKAM Zoll. et M. (Fig. 68).

Local names: *Agas-ás* (Dinagat Island); *amai-it* (Polillo); *bitoñgol* (Laguna); *kalamansánai*, *lalamasali* (Zambales); *kaluñga* (Benguet); *obiéng* (Pangasinan); *salabágín* (Cebu).

The fruits are small, violet colored, fleshy, subacid, and of good flavor.

According to Crevost and Lemarié,* in Indo-China this species

* Cat. Prod. de l'Indo-Chine, page 195.

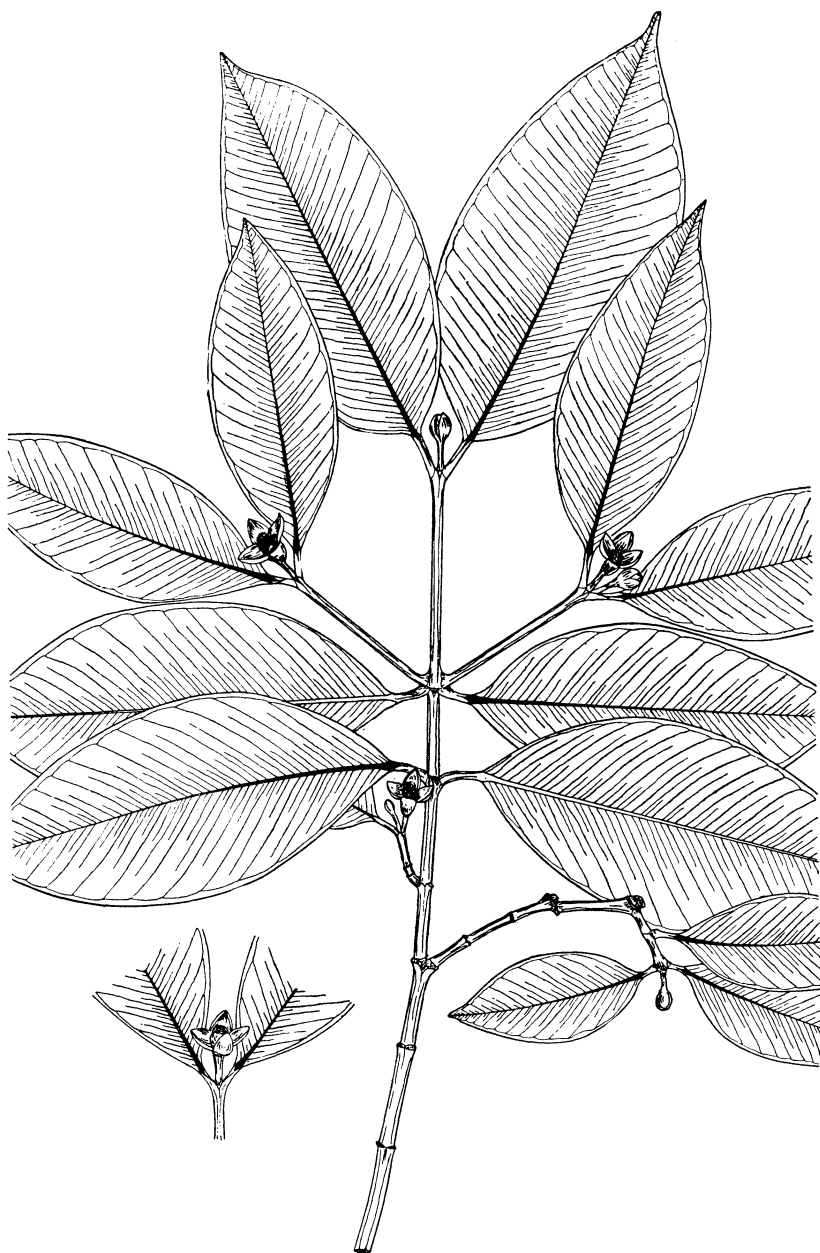


FIGURE 67. *GARCINIA VENULOSA* (GATASAN). $\times \frac{1}{2}$.

is cultivated for its berries, which are the size of large cherries, very sour, and good for pies.

Flacourtia rukam is a tree reaching a height of about 20 meters and a diameter of about 30 centimeters. The leaves are from 5 to 15 centimeters in length, the apex pointed, the base rounded or pointed. The young stems are very rough. The flowers are very small and occur in clusters in the axils of the leaves.

This species is distributed from Benguet to the southern limits of the Archipelago.

FLACOURTIA INDICA (Burm. f.) Merr. (Fig. 69).

Local names: *Bitoñgol* (Tarlac, Rizal); *bolóng* (Mindoro); *palutan* (Cagayan).

The fruit is rounded, fleshy, purple or nearly black, smooth, and 1 centimeter in diameter. The pulp is fleshy, edible, and has an agreeable flavor.

Flacourtia indica is a shrub or small tree reaching a height of 8 meters and a diameter of about 15 centimeters. This tree is armed with scattered, slender spines which are often 2 centimeters in length. The leaves are alternate, pointed at the base, and rounded at the tip. The edges of the leaves are toothed with rounded lobes. The flowers are white, occur singly or in pairs in the axils of the leaves or terminate short branchlets. They are about 5 millimeters in diameter.

This species has been reported from the following provinces: Cagayan, Isabela, Tarlac, Zambales, Bataan, Rizal, and Mindoro.

FLACOURTIA EUPHLEBIA Merr.

LANAGON.

Local name: *Lanagon* (Mindanao).

The fruits occur singly or in small clusters in the leaf axils, are 1 to 1.25 centimeters in diameter, and edible.

Flacourtia euphlebia is a tree-like shrub, about 5 meters in height, with a trunk about 10 centimeters in diameter. The leaves are alternate, the larger ones about 25 centimeters long by 10 centimeters wide. The margins are finely or coarsely toothed.

This species is reported only from Mindanao and is apparently rare.

Genus **PANGIUM**

PANGIUM EDULE Reinw. (Fig. 70).

PÁNGI.

Local names: *Pángi* (Negros, Samar, Iloilo, Camarines, Albay, Sorsogon, Cebu, Palawan); *malapañgi* (Davao).

The fruit is large, brown, and contains several seeds embedded in a yellowish, edible pulp. The fresh seeds are poisonous, but are rendered edible by steeping in water.



FIGURE 68. FLACOURTIA RUKAM. $\times \frac{1}{2}$.



FIGURE 69. FLACOURTIA SEPIARIA. $\times \frac{1}{2}$.

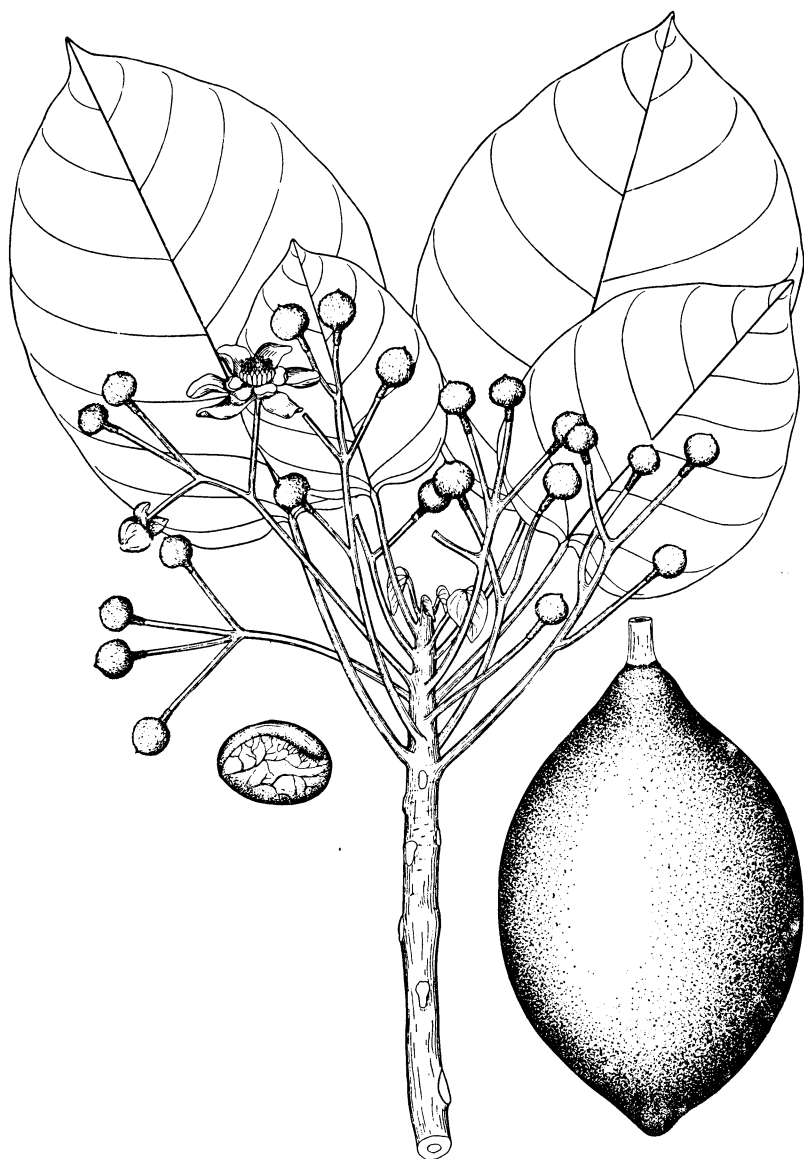


FIGURE 70. PANGIUM EDULE (PANGI). $\times 8$.

Pangium edule is a tree reaching a height of about 25 meters and a diameter of about 50 centimeters. The leaves are very large, smooth, entire or lobed, pointed at the apex, and rounded or heart-shaped at the base. The flowers are yellowish green, have a faint odor, and are borne on compound inflorescences.

This species is distributed from southern Luzon to southern Mindanao.

Family BEGONIACEAE

Genus BEGONIA

BEGONIA Spp.

The acid stems of various species of *Begonia* are eaten as a flavoring with meat and fish.

Family ELAEAGNACEAE

Genus ELAEAGNUS

ELAEAGNUS PHILIPPENSIS Perr.

ALINGÁRO.

Local names: *Alingáro* (Rizal, Cavite, Batangas, Laguna); *banaken* (Batangas); *kamagsá* (Laguna); *lingáro* (Rizal); *mala-ímus* (Negros).

The fruit of this plant when ripe is sweet and edible.

Elaeagnus philippensis is a shrubby vine with small, alternate leaves, which are pointed at both ends. The lower surfaces are thickly dotted with scales. The flowers are small and inconspicuous.

This species is distributed throughout the Philippines and is common in the northern provinces.

Family SONNERATIACEAE

Genus SONNERATIA

SONNERATIA ALBA Sm.

PEDADÁ.

A description of this species and its local names are given in the bulletin on mangrove swamps.

The fruit is slightly acid, is used as an article of food, and also for making vinegar.

Family COMBRETACEAE

Genus TERMINALIA

TERMINALIA CATAPPA L.

TALÍSAL.

A description and figure of this species and its local names are given in the bulletin on resins, gums, and oils.

The fruit is 3 to 6 centimeters long, somewhat flattened, ellipsoid in outline, prominently keeled along the sides, and contains an edible seed of good flavor. It is, however, difficult to extract the seed from the fruit.



J. Vitan del.

FIGURE 71. *TERMINALIA EDULIS* (KALUMPIT).

TERMINALIA EDULIS Blanco. (Fig. 71).

KALUMPÍT.

Local names: *Alupí*, *kalupé*, *kalupí*, *kalusít* (Cagayan); *anagép* (Ilocos Sur); *bágu* (Butuan); *báho* (Palawan); *balisáyín*, *malagábi* (Mindoro); *baraies* (Palawan); *basi* (Nueva Ecija); *bisal* (Bulacan); *dalinsi* (Tayabas, Laguna); *disi* (Nueva Vizcaya); *gayumáhin* (Zambales); *gisit* (Nueva Vizcaya); *kalamansánai* (Rizal); *kalaútít* (Nueva Vizcaya, Ilocos Sur, Benguet, Pangasinan, Cagayan); *kalomágon*, *kalománog* or *kalumánñgon* (Masbate, Samar, Camarines, Sorsogon); *kalumpít* (Mindoro, Zambales, Tarlac, Bulacan, Laguna, Masbate, Zamboanga, Bataan, Tayabas, Rizal, Cagayan, Camarines); *kalupí*, *kalurig* (Cagayan); *kalusi*, *kalusít* (Ilocos Sur, Cagayan); *kamaris* (Palawan); *kayumayen* (Zamboanga); *kotmók* (Camarines); *magtalisai* (Sorsogon, Masbate, Bisayas); *sákat* (Laguna); *sáket* (Pangasinan); *tako* (Northern Luzon); *talisai* (Sulu); *tañgál* (Camarines); *taya-táya* (Guimaras Island).

The fruits are about 3 centimeters wide, smooth, dark red, fleshy, and acid, and should make a good preserve.

Terminalia edulis is a tree reaching a height of about 35 meters and a diameter of about a meter. The leaves are from 6 to 15 centimeters in length, smooth, and pointed at both ends. The flowers are small, yellowish white, and are borne on slender spikes which grow from the axils of the leaves.

This species is very common and widely distributed in the forests from northern Luzon to southern Mindanao. It is not known to be cultivated except at the Lamao Experiment Station.

Family MYRTACEAE

Genus **EUGENIA****EUGENIA AHERNIANA** C. B. Rob.

TUL-ÁNAN.

Local names: *Hañgós* (Surigao); *lusunan* (Zamboanga); *lakkáñgan* (Cagayan); *magkonó*, *sambonotan*, *tul-ánan* (Samar); *malabayábas* (Laguna); *rukrukso* (Cagayan).

The fruits are rounded, about 2.5 centimeters in diameter, yellow, and edible.

Eugenia aherniana is a tree reaching a height of about 20 meters and a diameter of about 45 centimeters. The leaves are opposite, smooth, oval, somewhat pointed at both ends, and from 6 to 12 centimeters in length. The flowers occur singly in clusters in the axils of the leaves, including those of the terminal and fallen leaves. They are white, fragrant, and about 1.5 centimeters in breadth.

This species is distributed from northern Luzon to southern Mindanao. It is not in cultivation.



FIGURE 72. *EUGENIA CALUBCOB* (KALUBKUB). $\times \frac{1}{2}$.

EUGENIA AQUEA Burm. f.

TAMBÍS.

Local names: *Marabayábas*, *tambís* (Samar).

The fruits are edible.

Eugenia aquea is a tree reaching a height of 30 meters and a diameter of about 70 centimeters. The leaves are smooth, pointed at both ends, and from 5 to 15 centimeters in length.

This species is found in Samar.

EUGENIA CALUBCOB C. B. Rob. (Fig. 72).

KALUBKÚB.

Local names: *Adáng*, *andang* (Isabela); *balanga*, *kaupkúp*, *tuói* (Mindoro); *barabák* (Ilocos Sur, Union); *kalogkóg* (Nueva Ecija, Rizal, Tayabas, Samar); *kalubkúb* (Laguna, Rizal, Batangas, Tayabas); *karokób* (Camarines); *kayokóg*, *tampói* (Tayabas); *kupkúp* (Pampanga); *lambug* (Agusan); *makópa* (Laguna); *malaigang*, *tambís* (Negros Occidental); *malakópa* (Laguna, Negros Occidental); *malarúhat* (Nueva Ecija, Mindoro); *panglumbóien* (Isabela, Tarlac); *tampói*, *tampúti* (Bulacan, Tayabas).

The fruits are 4 to 5 centimeters long, greenish, and edible, with a good flavor.

Eugenia calubcob is a tree reaching a height of about 25 meters and a diameter of about 90 centimeters. The leaves are opposite, smooth, pointed at the apex, and rounded or heart-shaped at the base. The petioles are short. The flowers are white, 3 to 4 centimeters in diameter, and borne on compound inflorescences with few to many flowers.

This species is very common and widely distributed in the forests of the Philippines from the Batanes Islands to northern Mindanao. It is rarely cultivated.

EUGENIA CUMINI (Linn.) Merr. (*E. jambolana* Lam.)

DÚHAT.

Local names: *Dúhat* (Nueva Ecija, Tarlac, Pampanga, Zambales, Bataan, Rizal, Manila, Laguna, Batangas, Tayabas, Mindoro, Negros, Cebu, Palawan); *longbói* (Cagayan, Abra, Ilocos Sur, Union); *lumbói* (Ilocos Norte, Bataan, Tarlac, Rizal, Pampanga, Camarines, Guimaras Island, Cebu).

The fruit is oval or elliptical, dark purple or nearly black, 1.5 to 2 centimeters long, fleshy, and contains a single large seed. When fully ripe the flavor is very agreeable, somewhat like that of a cherry, but more astringent. Dúhat makes a delicious fruit ice. This fruit is a favorite with the Filipinos.

Eugenia cumini is a tree 4 to 15 meters in height. The leaves are opposite, smooth, shiny, leathery, and somewhat oval in shape. The flowers are pink or nearly white, and occur in con-

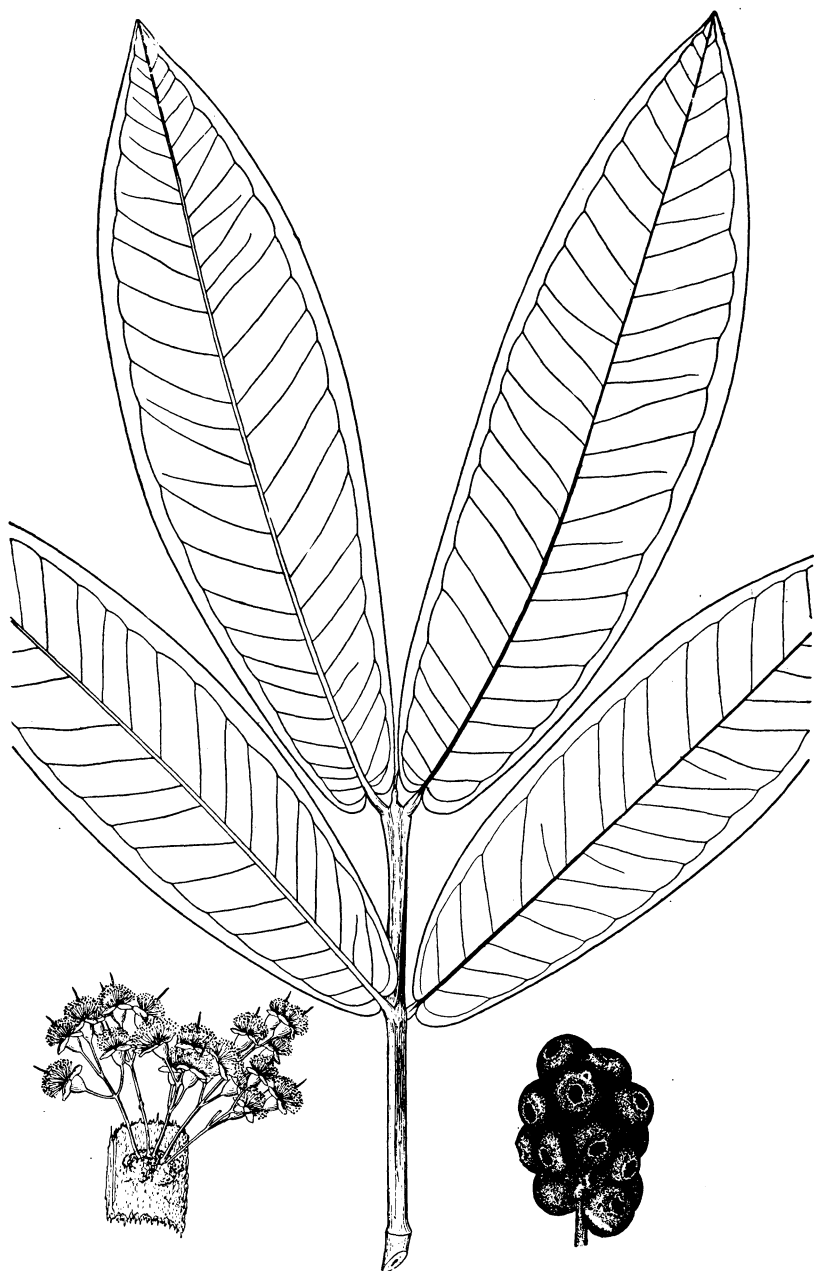


FIGURE 73. *EUGENIA CURRANII* (LIPOTE). $\times \frac{1}{2}$.

siderable numbers on compound inflorescences which are mostly below the leaves.

This species is apparently introduced in the Philippines, but is common and widely distributed in open places and second-growth forests. It is one of the most numerous trees in the early stages of the invasion of grass areas by second-growth forests.

EUGENIA CURRANII C. B. Rob. (Fig. 73).

LIPÓTE.

Local name: *Égot* or *ígot* (Samar); *lipóte* (Laguna).

The fruit is rather small, but edible.

Eugenia curranii is a tree reaching a height of about 15 meters and a diameter of about 30 centimeters. The small branches are distinctly four-angled and more or less swollen at the nodes. The leaves are opposite, smooth, pointed at the apex, somewhat heart-shaped at the base, 20 to 25 centimeters in length, and 6 to 8 centimeters wide. The flowers are white, over 1.5 centimeters in width, and occur in clusters on the trunks and branches.

This species has been reported only from Laguna and Samar. It is not cultivated.

EUGENIA MANANQUIL Blanco. (Fig. 74).

MANANGKÍL.

Local names: *Ansa* (Pangasinan); *babá* (Bontoc); *bagabag* (Pampanga); *bua-búa*, *muñgilkil* (Mindoro); *bungkulan*, *malarúhat* (Laguna); *dambohála* (Cavite, Batangas); *gorong-góng* (Isabela); *kagokó* (Lanao, Leyte); *kagukú*, *tambis*, *tambi*, *lugis*, *kagukúg* (Cotabato); *malahágis* (Sorsogon); *malaigang* (Negros); *marabayábas* (Cagayan); *midbíd*, *ma-kaásim* (Tayabas); *modbód*, *mitbíd* (Camarines); *mitbít* (Davao); *pang-longboíen*, *kopakópa* (Ilocos Sur); *pasóso* (Rizal); *tañgus* (Agusan).

The fruits are borne in large numbers, are about 4 centimeters long, ovoid, red, fleshy, acid, and of good flavor.

Eugenia mananquil is a tree reaching a height of about 30 meters and a diameter of about 120 centimeters. The leaves are opposite, smooth, pointed at both ends, and from 6 to 12 centimeters in length or longer. The flowers are pink and yellowish white, fragrant, about 1.5 centimeters in diameter, and grow in clusters on the trunks and large branches.

This species is very common and widely distributed in the forests of the Philippines from the northern part of Luzon to the Sulu Archipelago.

EUGENIA POLYCEPHALOIDES C. B. Rob.

MAIGÁNG.

Local names: *Bali'gáng* (Camarines, Albay); *balasugan*, *magtaluóng* (Cagayan); *ígot* (Samar); *lipóte* (Laguna); *lipúte*, *piláuai* (Tayabas); *maigáng* (Leyte).

The fruit is rounded, a little more than a centimeter in diameter, and has a color and flavor similar to that of the common



FIGURE 74. *EUGENIA MANANQUIL* (MANANGKIL). $\times \frac{1}{2}$.

duhat (*Eugenia cumini*), but is less sweet and juicy. It makes a delicious, tart jelly.

Eugenia polycephaloides is a tree reaching a height of about 25 meters and a diameter of about 90 centimeters. The small branches are four-angled. The leaves are opposite, smooth, pointed at the apex, somewhat heart-shaped at the base, and 12 to 20 centimeters or more in length. The flowers are white, fragrant, and borne in rather large clusters on compound inflorescences which occur below the leaves.

This species is distributed from northern Luzon to southern Mindanao. It is not cultivated.

EUGENIA XANTHOPHYLLA C. B. Rob. (Fig. 75). MALATAMPÚI.

Local names: *Apnig*, *lapinig* (Sorsogon); *balakbák*, *baloklók* (Zambales); *barakbák* (Ilocos Sur, Nueva Ecija); *bislót*, *tampói-gubat* (Rizal); *kayog-póg*, *kayokós*, *kayugkók*, *malayambo* (Tayabas); *malatampúi* (Negros Occidental); *panglumbúyen* (Pangasinan); *tampói* or *tampúi* (Mindoro).

The fruits are about 2 or 2.5 centimeters in diameter, and edible.

Eugenia xanthophylla is a tree reaching a height of about 20 meters and a diameter of about 50 centimeters. The leaves are opposite, smooth, pointed at both ends, and from 7 to 15 centimeters or more in length. The flowers are white.

This species is widely distributed in the forests of Luzon and the Visayan Islands.

Genus PSIDIUM

PSIDIUM GUAJAVA L. (Fig. 76). GUAVA OR BAYÁBAS.

Local names: *Bayábas* (Manila, Nueva Ecija, Laguna, Cagayan, Abra, Bulacan, Union, Benguet, Bataan, Polillo, Mindoro, Cebu, Tayabas, Tarlac, Pampanga, Leyte); *bayáuas* (Camarines); *guava* (Cagayan); *guayábas* (Laguna, Bataan); *guyábas* (Bontoc).

The fruit is rounded, 4 to 5 centimeters long, and is green, turning yellow when ripe. The outer covering is firm and encloses a pink or nearly white, aromatic, edible pulp in which very numerous seeds are embedded. The fruit is a favorite with the Filipinos and is extensively used in the manufacture of jellies.

Psidium guajava is a small tree reaching a height of about 8 meters. The branches are four-angled. The leaves are opposite, somewhat hairy, oval, and usually pointed at both ends. The flowers are white, showy, and borne in panicles of from one to three flowers. The petals are 1.5 to 2 centimeters in length.

This species is very common and widely distributed in open places and second-growth forests in the lowlands throughout the Archipelago, and is also cultivated.

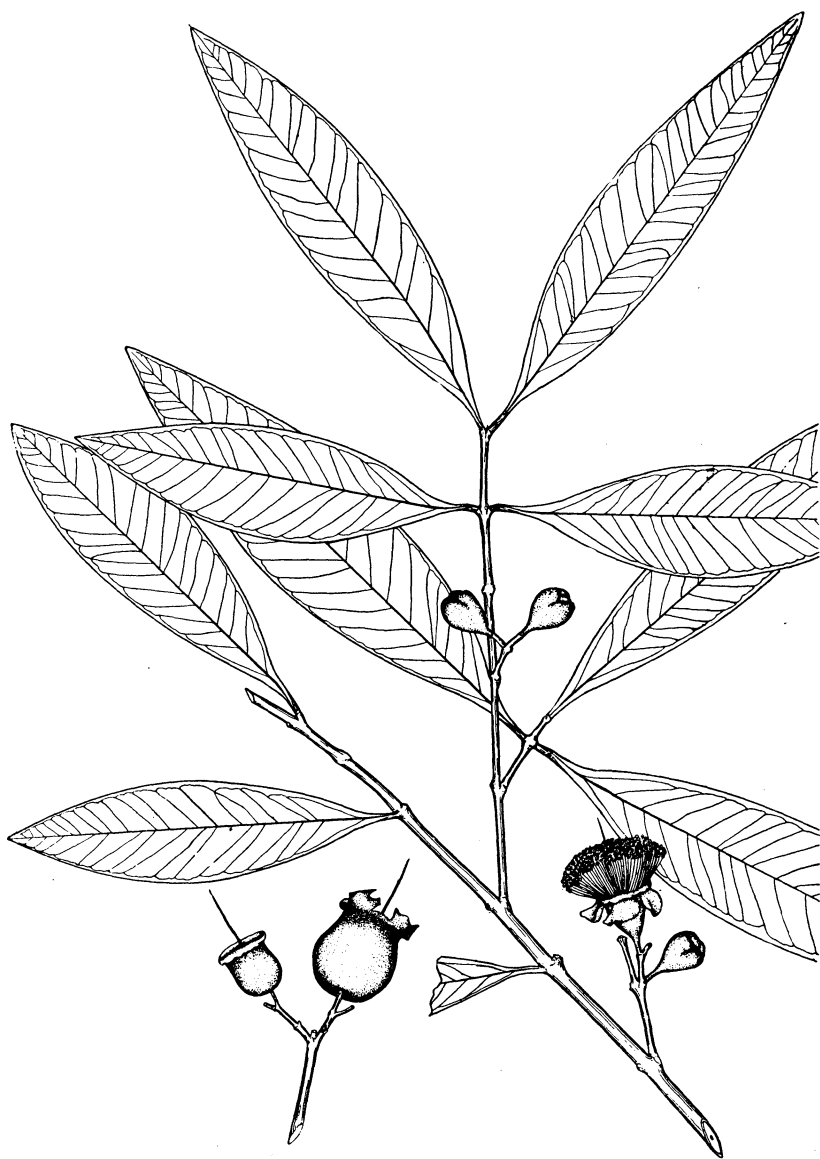


FIGURE 75. *EUGENIA XANTHOPHYLLA* (MALATAMPUI). $\times \frac{1}{2}$.

Genus RHODOMYRTUS

RHODOMYRTUS TOMENTOSA Hassk.

The fruit is surrounded by a small pulp which is edible.

Rhodomyrtus tomentosa is a shrub. The leaves are opposite, 3 to 7 centimeters in length, leathery, pointed at the base, rounded or slightly pointed at the tip, and with the under surfaces hairy.

This species is found only in northern Luzon and the Babuyan Islands.

Family ERICACEAE

Genus VACCINIUM

VACCINIUM MYRTOIDES (Blume) Miq. (Fig. 77).

Local name: *Gatmo* (Benguet).

The fruit is a blueberry very similar to the blueberries of America. It has an excellent taste and makes fine preserves and pies.

Vaccinium myrtoides is a shrub. The leaves are alternate, leathery, 2 to 2.5 centimeters in length, pointed at the tip, and rounded or pointed at the base. The flowers are small, and whitish or purplish.

This species is distributed from Luzon to Mindanao and is common in Benguet, Luzon.

VACCINIUM WHITFORDII Merr.

KATMO.

Local names: *Fafalong* (Bontoc); *katmo* (Benguet); *lusong* (Lepanto); *parukapol* (Neva Ecija).

The fruits are produced singly in the axils of the leaves. They are small, black, juicy, subacid, sweet, and of good quality.

Vaccinium whitfordii is a shrub or small tree 1 to 5 meters in height or taller. The leaves are about 1.5 centimeters in length and 5 millimeters wide. The flowers are small and red.

This species is found in the northern part of Luzon, particularly in the Mountain Province, and also in Mindoro, Leyte, and Occidental Negros. It is not cultivated.

Family MYRSINACEAE

Genus ARDISIA

ARDISIA BOISSIERI A. DC.

TAGPÓ.

Local names: *Apiot* (Agusan); *kanai* (Palawan); *katagpó* (Batangas); *katatbum*, *pataktól* (Pampanga); *kolagpung-pulá* (Zambales); *liputing-*

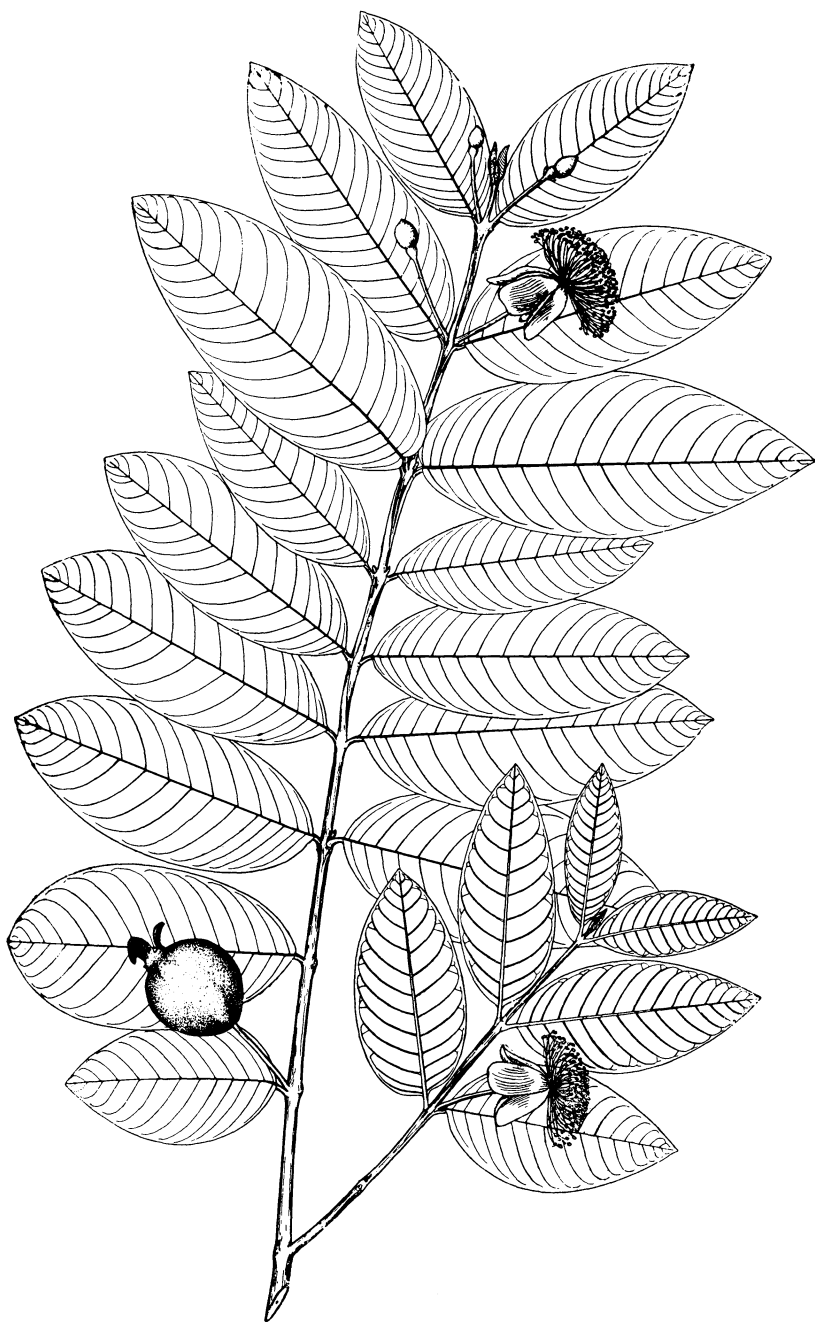


FIGURE 76. *PSIDIUM GUAJAVA* (GUAVA OR BAYABAS). $\times \frac{1}{2}$.

gúbat, *malayambo*, *pingit* (Tayabas); *malaranúm* (Nueva Ecija); *mulang* (Cagayan); *oksor* (Ilocos Norte); *tagpung-pulá* (Rizal); *tagpó* (Bulacan, Laguna); *tukál* (Laguna).

The flowers and fruits are cooked as a flavoring with fish.

Ardisia boissieri is a small tree reaching a height of about 10 meters and a diameter of 15 centimeters. The leaves are alternate, rather slender, and pointed at both ends. The flowers are borne on compound, terminal or lateral inflorescences and are about a centimeter in length. They are white or pink, and fragrant. The stalks are about 3 centimeters long. The fruits are dark blue or purple, rounded, and less than a centimeter in diameter.

This species is very common and is distributed from Luzon to Mindanao.

Genus **EMBELIA**

EMBELIA PHILIPPINENSIS A. DC.

Local names: *Binurok* (Iloko); *bisalak*, *bisudak* (Igorot in Benguet); *dekai-dekaiang* (Bukidnon); *palongpóng* (Iloko); *pongpong* (Igorot in Bontoc).

The acid leaves are eaten with fish.

Embelia philippinensis is a woody vine, the old stems of which are spiny. The leaves are alternate, leathery, smooth, and from 7 to 14 centimeters in length. The flowers are small, whitish, and occur in considerable numbers on compound inflorescences.

This species is distributed from northern Luzon to southern Mindanao.

Family **SAPOTACEAE**

Genus **BASSIA**

BASSIA OBOVATIFOLIA Merr.

Local name: *Maniknik* (Camarines).

The fruit of this species resembles the chico (*Achras sapota* L.) but it is about twice as large, and has a light-colored skin, which is thin and rough. The flesh is like that of the chico in color, consistency and flavor; while the seeds are also similar.

Bassia obovatifolia is a tree about 20 meters in height. The leaves are leathery, rounded at the tip, pointed at the base, larger near the tip than near the base, 7 to 12 centimeters long, and 4 to 6.5 centimeters wide.

This species has been reported only from Camarines.

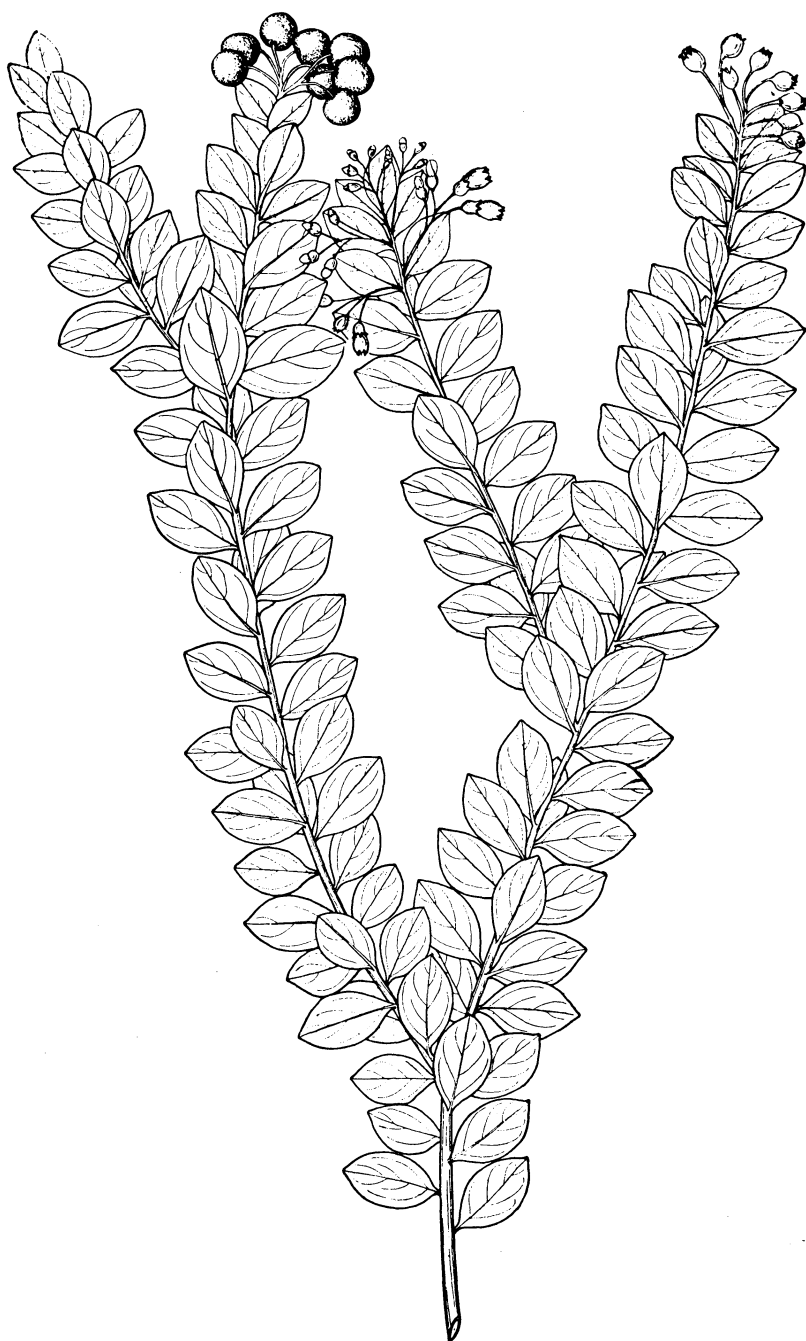


FIGURE 77. *VACCINIUM MYRTOIDES*. $\times \frac{3}{8}$

Genus **MIMUSOPS****MIMUSOPS PARVIFOLIA** R. Br. (Fig. 78).**BANSALÁGIN.**

Local names: *Bansalágin* (Tayabas, Masbate, Palawan, Mindoro, Cavite, Batangas, Camarines, Union, Ticao Island, Bataan, Cotabato, Zamboanga); *bansalágon* (Sibuyan, Masbate, Negros); *gatásan* (Nueva Ecija); *gasátan-muláto* (Ilocos Sur); *lín̄go-lín̄go*, *ligayán*, *bansalágin-mujér*, *uláyan* (Zamboanga); *pagpágan* (Cagayan, Palaui Island); *pappágan* (Cagayan); *pásak* (Nueva Ecija, Tarlac, Pampanga); *tagátói* (Bulacan); *talipópo* (Culion).

The fruit is oval, about 3 centimeters long, and reddish or yellowish. It has a firm outer covering, and contains a single seed surrounded by a fleshy, aromatic, edible pulp.

Mimusops parvifolia is a tree reaching a height of about 25 meters and a diameter of about 90 centimeters. The leaves are alternate, smooth, pointed at both ends, and from 4 to 10 centimeters in length. The flowers are rather small, white, and fragrant. The inner bark is red and contains a sticky, milky sap.

This species is very common and widely distributed in the forests from northern Luzon to the southern limits of the Archipelago. It is rarely cultivated.

Genus **PALAEQUIMUM****PALAEQUIMUM PHILIPPENSE** C. B. Rob. (Fig. 79).**MALAKMÁLAK.**

Local names: *Agás*, *alaká*, *manimparog* (Mindoro); *alakák* (Cavite, Rizal, Batangas, Laguna, Bataan, Tayabas, Mindoro, Pampanga); *apakapák*, *bitók* (Isabela); *araká* (Cagayan); *banití* (Bataan); *dulitan-taklóbán*, *malapútat* (Tayabas); *malakmálak* (Zambales); *malasapúti* (Pampanga); *manogtalisai* (Cagayan); *náto-pulá* (Albay); *pakáran*, *palak-pálak* (Bataan, Pangasinan, Pampanga, Bulacan, Tarlac, Zambales).

The fruit is oval, about 3 or 4 centimeters or more in length, contains a single seed, and is edible.

Palaquium philippense is a tree reaching a height of about 25 meters and a diameter of about 80 centimeters. The leaves are usually 16 centimeters or more in length. The lower surfaces are very striking, being velvety and russet colored. The flowers are about 1.5 centimeters in length, and are borne on long stalks in small clusters. The corolla is white, the calyx brown and velvety.

This species is very common and widely distributed from northern Luzon to southern Mindanao. It is cultivated only at the Lamao Experiment Station.

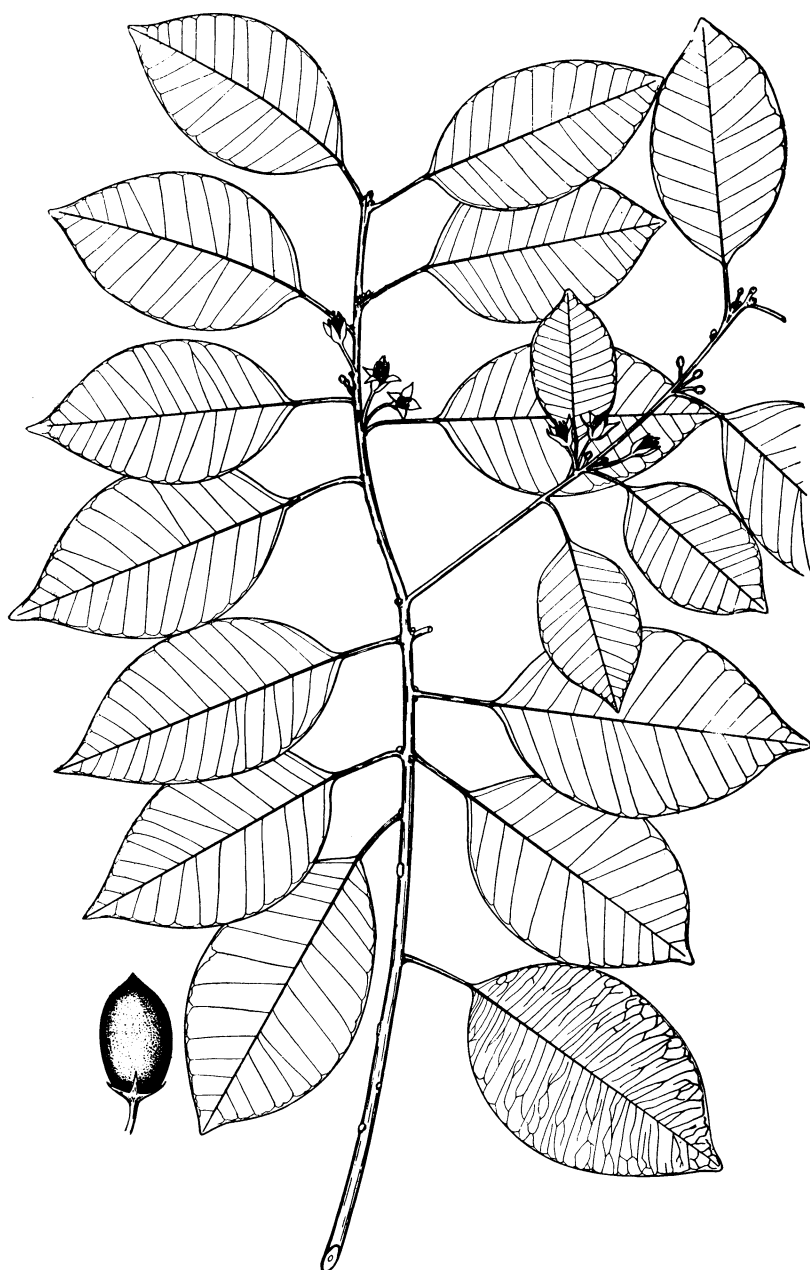


FIGURE 78. *MIMUSOPS PARVIFOLIA* (BANSALAGIN). $\times \frac{1}{2}$.



FIGURE 79. PALAQUIUM PHILIPPENSE (MALAKMALAK).

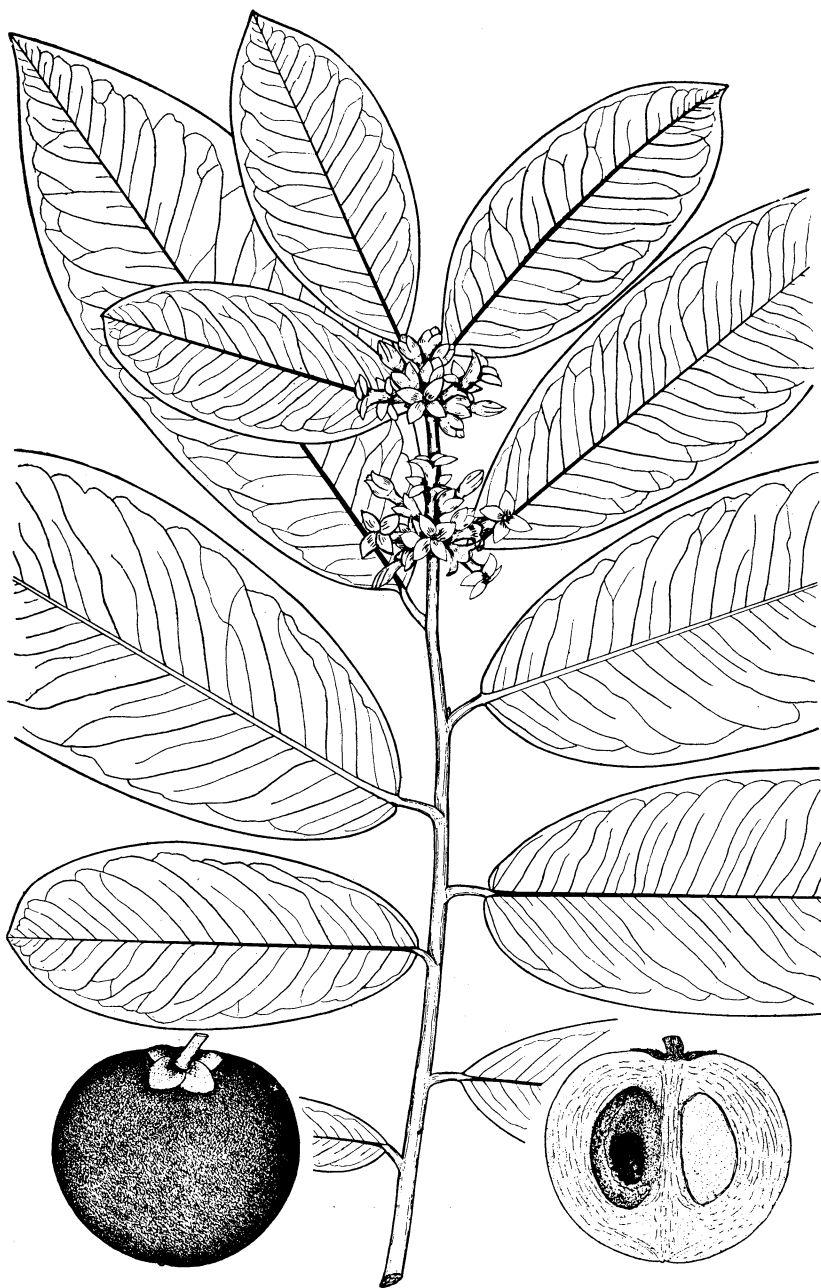


FIGURE 80. DIOSPYROS DISCOLOR (KAMAGONG). $\times \frac{1}{2}$.

Family EBENACEAE

Genus DIOSPYROS

DIOSPYROS DISCOLOR Willd. (Figs. 80, 81). CAMAGÓN * or KAMAGÓNG.

Local names: *Baling-agtá* (Cagayan); *kamagóng* (Pangasinan, Zambales, Nueva Ecija, Manila, Cavite, Batangas, Tayabas, Camarines, Albay, Laguna, Sorsogon, Mindoro, Leyte, Dinagat Island, Surigao, Agusan); *itom-itóm*, *malasantól* (Butuan); *itúman* (Leyte); *kamáya* (Batanes Island); *mabúlo* (Cagayan, Ilocos Norte, Union, Zambales, Pampanga, Rizal, Bataan, Cavite, Nueva Ecija, Manila, Guimaras Island); *tálang* (Rizal, Bataan, Pampanga).

The fruits are large, rounded, fleshy, densely covered with brown hairs, and have a disagreeable odor. They contain a few rather large seeds. The fruits are edible and have a good flavor.

Diospyros discolor is a tree reaching a height of about 25 to 32 meters and a diameter of 60 to 80 centimeters. The leaves are alternate, leathery, pointed at the apex, round or pointed at the base. The upper surface is green and shiny; the lower covered with soft, pale hairs.

This species is common and widely distributed in the forests of the Philippines from Luzon to the southern limits of the Sulu Archipelago. It is frequently cultivated for its edible fruit, which is widely known as mabólo or mabúlo.

Family APOCYNACEAE

Genus OCHROSIA

OCHROSIA LITTORALIS Merr.

Local names: *Labusei* (Sibutu Island); *pakoidan* (Cagayan).

The fruits are united at the base, 2.5 to 4 centimeters long, and 1 to 1.5 centimeters in diameter. The outer part is fleshy and covers a stone containing edible seeds.

Ochrosia littoralis is a tree 2 to 10 meters in height. The leaves occur in whorls of three or four, and are smooth, pointed at both ends, 6 to 8 centimeters long, and 2 to 2.5 centimeters wide; the petioles 4 to 5 millimeters long or shorter. The flowers are yellow and have a slender, cylindrical corolla-tube, which is about 6 millimeters long.

This species is distributed from northern Luzon to the southern part of the Sulu Archipelago.

* The Spanish pronunciation and spelling of the native Kamagóng.

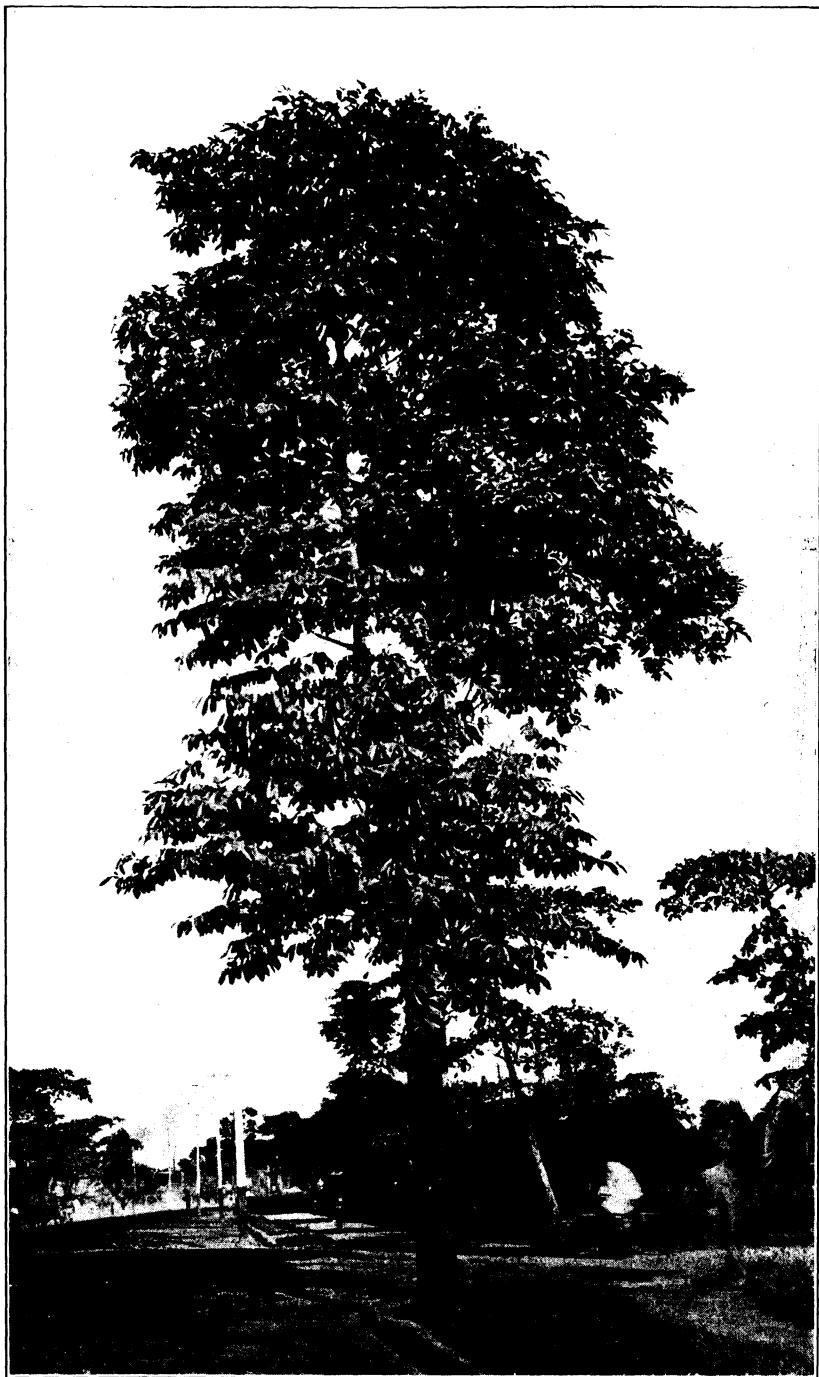


FIGURE 81. DIOSPYROS DISCOLOR (KAMAGONG).

OCHROSIA OPPOSITIFOLIA (Lam.) K. Sch.

GINLÍN.

Local name: *Ginlin* (Basilan).

The fruit contains an edible seed.

Ochrosia oppositifolia is a fairly large tree. The leaves are thick, pointed at the base, and abruptly pointed at the tip.

This species has been reported only from Mindanao and Basilan.

Family ASCLEPIADACEAE

Genus **TELOSM****TELOSM PROCUMBENS** (Blanco) Merr.Local names: *Dukep* (Union); *latok* (Bataan).

The immature fruits are cooked and eaten as a vegetable.

Telosma procumbens is a somewhat woody vine with slender, rounded, slightly hairy branches. The leaves are 8 to 13 centimeters long and 3 to 8 centimeters wide, thin, slightly hairy on the lower veins, pointed at the tip; the base rounded, straight or slightly heart-shaped. The flowers are greenish yellow, odorless, and about 1.5 centimeters in length. The fruits are about 15 centimeters long and contain flat seeds which have many soft, white hairs.

This species is widely distributed in thickets at low altitudes from northern Luzon to southern Mindanao.

Family CONVOLVULACEAE

Genus **IPOMOE****IPOMOE REPTANS** Poir.

KANGKÓNG.

Local names: *Balángóg* (Abra, Ilocos Sur); *galatgát* (Ilocos Norte); *kangkóng* (Pangasinan, Bulacan, Pampanga, Bataan, Rizal, Manila, Laguna, Tayabas, Camarines, Albay, N. Mindoro); *tangkóng* (Cagayan, S. Mindoro, Leyte, Cuyo Islands, Cotabato); *tangkúg* (Zamboanga).

The young leaves and stems are boiled and eaten as a vegetable. They have a slightly purgative effect.

Ipomoea reptans is a smooth vine trailing on mud or floating on stagnant pools. The leaves have long petioles, are 7 to 14 centimeters in length, with a pointed tip, and a heart- or arrow-shaped base. The corolla is purple and white, about 5 centimeters long, and about 5 centimeters in diameter. The capsules are ovoid and about 5 centimeters in length.

This species is common and widely distributed throughout the Philippines.

Family BORAGINACEAE

Genus EHRETIA

EHRETIA MICROPHYLLA Lam.

KALAMOGÁ.

Local names: *Buntatai* (Negros); *cha* (Cagayan, Bataan); *chang-gúbat* (Laguna, Batangas); *echá-ti-bákir* (Ilocos Sur); *itsá* (Ilocos Norte); *kalamogá* (Tayabas); *kalimumug* (Cotabato); *mara-mara* (Ticao Island); *maratiá* (Cagayan).

The leaves of this plant are sometimes used locally as a substitute for tea.

Ehretia microphylla is an erect, much-branched shrub, 1 to 4 meters in height. The leaves occur in clusters on short branches. They are rough, 1 to 6 centimeters long, entire or somewhat toothed or lobed near the apex, with a narrow base, and a short petiole. The corolla is white, and 5 millimeters long. The fruit is yellow, rounded, the outer part somewhat fleshy, the inner part stony. It contains four seeds.

This species is common and widely distributed in thickets in the Philippines.

Family VERBENACEAE

Genus PREMNA

PREMNA NAUSEOSA Blanco.

ALAGÁU-DÁGAT.

Local names: *Alagáu*, *alagáu-dágat* (Tagalog); *alagáu-blanco* (Zamboanga); *aragáu* (Davao); *argáu* (Negros).

The leaves of this species are sometimes used as a substitute for those of *Piper betle* for chewing with the seeds of *Areca catechu*.

Premna nauseosa is a shrub 1 to 4 meters in height. The leaves are opposite, smooth, somewhat oval, pointed at the tip, rounded or somewhat heart-shaped at the base, 7 to 14 centimeters long, and 5 to 7 centimeters wide. The flowers are small, and greenish or greenish white. The fruit is rounded, dark purple, fleshy, and about 4 millimeters in diameter.

This species is distributed along the seacoast throughout the Philippines.

Family SOLANACEAE

Genus CAPSICUM

CAPSICUM FRUTESCENS L.

SÍLI OR CHILE PEPPER.

Local names: *Kasira* (Cotabato); *katumbal* (Culion); *ladá* (Camarines); *lará* (Davao); *sileng-botónes* (Cagayan); *sileng-labúyo* (Rizal, Cavite);

sili (Union, Bontoc, Mindoro, Batanes Islands, Batangas, Nueva Vizcaya, Balabak Island, Palawan).

The fruit of the common form is red, oblong, and from 1.5 to 2.5 centimeters in length. It has a very sharp taste and is used as a condiment.

Capsicum frutescens is an erect, branched, shrub-like herb 0.8 to 1.5 meters high. The leaves are pointed at the tip and 3 to 10 centimeters in length. The flowers occur singly or in clusters of a few in the axils of the leaves. They are pale green or yellowish green, and from 8 to 9 millimeters in diameter.

This species is a native of tropical America, but is now found in all tropical countries. It is occasionally found in waste places throughout the Philippines and is also commonly cultivated.

Genus LYCOPERSICUM

LYCOPERSICUM ESCULENTUM Mill.

TOMATO.

Local names: *Kamátes* (Bontoc, Benguet, Rizal, Camarines); *kamátes-bondók* (Balabac Island).

In the Philippines there is a naturalized form of the common tomato with fruits about 1 to 1.5 centimeters in diameter.

Lycopersicum esculentum is a coarse, hairy, annual herb, with alternate, compound leaves. The flowers are yellow, and 1 to 1.5 centimeters in length. The fruit is rounded, red, contains many seeds, and is edible.

Genus SOLANUM

SOLANUM CUMINGII Dun.

TALONĠTALONĠGAN.

Local names: *Balbalósa* (Camiguin Island); *bal-bal-lúsa* (Union, Pangasinan); *malvalúsa* (Cagayan); *tabulak* (Pangasinan); *taloŋgtalónŋan* (Polillo, Marinduque); *talunġtalúnġan* (Negros); *talingtaling* (Basilan); *tarambólo* (Bulacan).

The fruit of this species is rounded, smooth, about 2.5 centimeters in diameter, and green mottled with white, or yellow. The unripe fruit is cooked and eaten as a vegetable.

Solanum cumingii is a spreading or ascending, somewhat branched, hairy herb 30 to 60 centimeters in height. The stems, petioles and leaves are armed with scattered, sharp, rather stout spines, which are 3 to 6 millimeters long. The leaves are alternate, somewhat pointed at the tip, inequilateral at the base, irregularly lobed on the margins, and 4 to 12 centimeters in length. The flowers are violet or purplish, nearly 2 centimeters in diameter, and are borne in small numbers on small flowering branches which are in the axils of the leaves.

This species is widely distributed in open, waste places in the Philippines.

Family SCROPHULARIACEAE

Genus LIMNOPHILA

LIMNOPHILA ROXBURGHII G. Don.

KALAÓO.

Local name: *Kalaáo* (Camarines).

This plant is aromatic and is used in cooking. It is also utilized to perfume the hair.

Limnophila roxburghii is an herb reaching a height of about 50 centimeters. The leaves are opposite, pointed at both ends, usually widest near the base, have toothed margins, and are from 3 to 12 centimeters in length. The flowers are about a centimeter long, purplish, and occur in clusters on stems which are found in the axils of the leaves or terminate the leafy branches.

This species is distributed from Luzon to Palawan.

Family BIGNONIACEAE

Genus OROXYLUM

OROXYLUM INDICUM (L.) Vent.

PINGKAPINGKÁHAN.

Local names: *Abang-ábang* (Guimaras Island); *balai-uák* (Zamboanga); *balílang-uák* (Tagalog); *barañgáu* (Abra, Ilocos Sur); *kampilan*, *kakampilan*, *kamkampilan* (Ilocos Sur, Isabela, Pangasinan); *maidbaíd* (Camarines); *pinggapínggáhan* or *pingkapíngkáhan* (Tagalog); *tagbiláu* (Tagalog).

The unripe fruits of this species are cooked in a variety of ways and eaten as a vegetable.

Oroxylum indicum is a small tree 4 to 12 meters in height. It has few or no branches. The leaves are 1.5 meters in length and 3- or 4-pinnate. The leaflets are numerous, pointed at the tip, and 5 to 15 centimeters long. The corolla is about 6 to 7 centimeters long, dark purple, and bell-shaped. The fruit is a capsule, up to 1 meter in length, about 8 centimeters wide, and 1 centimeter or less in thickness. The seeds, including the very thin wings, are up to 6 centimeters wide.

This species is common and widely distributed from northern Luzon to Basilan.

Family CUCURBITACEAE

Genus MOMORDICA

MOMORDICA CHARANTIA L.

AMPALAYÁ.

Local names: *Amargóso* (Spanish-Filipino); *saligum* (Basilan); *ampalayá* (Manila, Tayabas, Balabac Island); *ampaleyá* (Bataan); *apalyá* (Marinduque); *maragóso* (Surigao); *pariá* (Camarines); *pariam* (Bontoc).

The fruit is oblong, cylindrical, pointed at both ends, ribbed and wrinkled. The wild forms are from 2 to 3 centimeters in

length and the cultivated ones up to at least 25 centimeters in length. The fruits and young growth are boiled and eaten by the Filipinos with meat and other vegetables.

Momordica charantia is an herbaceous, annual vine, climbing by tendrils which are up to 20 centimeters in length. It is nearly or quite smooth. The leaves are heart-shaped at the base, 2.5 to 10 centimeters in diameter, and cut nearly to the base into five or seven variously toothed and divided lobes. The flowers occur in the axils of the leaves on long stalks. They are yellow and about 12 millimeters long.

This species grows in thickets and waste places throughout the Philippines, and is also extensively cultivated for its edible fruits.

MOMORDICA COCHINCHINENSIS Spreng.

TABOG-ÓK.

Local names: *Bayok-bayók* (Mindoro); *libás* (Ilocos Sur); *parog-párog-ti-noáng*, *parog-párog-ti-táwo* (Union); *parug-párug* (Cagayan); *tabog-ók* (Camarines).

The young leafy shoots are cooked as a vegetable. The pulp of the fruit is also edible.

Momordica cochinchinensis is a coarse vine reaching a length of 15 meters and climbing by means of tendrils. It is slightly hairy or nearly smooth. The leaves are 8 to 18 centimeters long, deeply three-lobed, or sometimes entire, the base heart-shaped. The petals are pale yellow, and from 3.5 to 4 centimeters long. The fruits are ovoid or somewhat rounded, 8 to 12 centimeters in diameter, yellow, and roughened with scattered tubercle-like spines.

This species is distributed from northern Luzon to southern Mindanao.

Family COMPOSITAE

Genus **BIDENS**

BIDENS CHINENSIS Willd.

ANGGUÁT.

Local names: *Anguar* (Nueva Vizcaya); *angguát* (Benguet); *purpurikit* (Ilocos Norte); *tagob* (Mindoro).

The Igorots of Benguet mix this plant with half-boiled grains of rice in making rice wine, or tafei.

Bidens chinensis is an herb about a meter in height, with yellow flowers and lobed, toothed leaves.

This species is distributed from northern Luzon to Mindanao.

BIDENS PILOSA L.

PURÍKET.

Local names: *Ang-ñguád* (Benguet); *dadayem* (Batanes Islands); *puriket* (Bontoc, Union).

This plant is used in making an Igorot wine called *sinitisit*.

Bidens pilosa is an erect, branched, more or less hairy herb 0.2 to 1.5 meters in height. The leaves are up to 15 centimeters in length, the upper ones usually much smaller. They are once or twice pinnately divided. The flowering heads are about 8 millimeters long, the disc flowers brown or yellowish, the ray ones yellow or nearly white. The seeds are black, 1 to 1.5 centimeters long, with four projections at the apex.

This species is very common and widely distributed from northern Luzon to southern Mindanao.

Genus **EMILIA**

EMILIA SONCHIFOLIA (L.) DC.

TAGULÍNAU.

Local names: *Kipot-kipot* (Sorsogon); *marcilanana* (Laguna); *mulumustasa* (Negros); *tagulinas* (Tayabas); *tagulínau* (Polillo, Manila); *yayod-no-kangkáng* (Batanes).

This species is cooked and eaten as a vegetable.

Emilia sonchifolia is an erect, smooth or slightly hairy plant, which is 10 to 40 centimeters in height. The leaves are somewhat fleshy; the lower ones are lobed and 5 to 10 centimeters in length. The flowering heads are purple and 12 to 14 millimeters long.

This species is found from northern Luzon to Basilan in open grasslands and waste places.

Genus **SONCHUS**

SONCHUS OLERACEUS L.

GAGALANG.

Local name: *Gagalang* (Benguet).

This species is used as greens. According to Heyne,* it is cultivated in some parts of Java.

Sonchus oleraceus is an erect, annual, hairy or slightly glandular herb, 40 to 60 centimeters in height. The leaves are alternate, 10 to 20 centimeters long, and very coarsely lobed. The flower heads are about 1 centimeter long, and yellow.

This species is found occasionally in disturbed or cultivated soil, especially in the Mountain Province.

* Heyne, K., *De Nuttige Planten van Nederlandsch-Indië*, Volume 4, page 254.

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